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ORIGINAL COMMUNICATIONS.

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THE NOSE AND THROAT IN THE HISTORY OF MEDICINE.

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(Continued from page 28.)

THE RESULTS OF THE RENAISSANCE.—Continued.

The Modern Operation.

We now note the first great advance in the technique, since the first mention of the operation. Although others, as Casserius and Fabricius, had declared that cut cartilages healed kindly and easily, division of them was always avoided. Juncker*, in 1721, said of bronchotomy, that some advised the ring to be cut, which allowed more convenient placing of the tube, but he thought this renders the healing more difficult, and he advised that it should only be done for foreign bodies, in which case many rings may be cut. A little before this time, Heister† apparently first advised the division of the rings as a routine practice. He speaks of tracheotomy in the "Bräune," and for resuscitation of the drowned. Platner‡ in 1758 approved of bronchotomy, when necessary, in angina, and says it is safe to cut the cartilaginous rings. He did not approve of paracentesis. Vic d'Azyr§ in 1776 communicated, to the Royal Society of Medicine of Paris, his reflections on the possibility of laryngotomy between the thyroid and cricoid cartilages.

Laryngotomy.

According to Sprengel, Desault was the first who practiced laryngotomy, splitting up the thyroid cartilage in an individual in the larynx of whom a foreign body had lodged. While Desault

* Conspectus Chirurgiæ, p. 665.
† Chirurgie, L. 1718.
‡ Institutiones Chirurgiæ, 1758.
§ Hist. de la Soc. Royale de Med., 1776.

urged the propriety of such a procedure in cases of this kind, I find no record of the fact that he performed it, in any of the many editions the great Bichat issued of his works. We have noted a similar suggestion in Juncker, in regard to the tracheal rings. Pelletan* records a case, operated on in 1788, in which he did a laryngotomy, dividing the thyroid cartilage in order to push down into the esophagus a foreign body arrested at that point. The man recovered but remained hoarse, and according to Pelletan such will always be the case when the incision includes the larynx. In another case (Obs. IV) in 1805 he divided the cricoid cartilage alone. Holmes attributes the origin of the modern tracheotomy tube to A. G. Richter, who published his Obs. Chirurg. in 1776.

Tracheotomy in Diphtheria.

From what has preceded it is evident, I think, that many of the cases in which tracheotomy had been done, were suffering from diphtheria, but when Bretonneau wrote his great treatise† he cited from Borsieri the report of an operation, as the first instance in which it was clearly evident that the obstruction to breathing, for which it was done, was due to croupous laryngitis. It was performed by Andreé, a skillful London surgeon, in 1782. upon a five-year-old boy, who recovered in fifteen days.‡

INTRA-NASAL SURGERY AND PATHOLOGY OF THE SEVENTEENTH AND EIGHTEENTH CENTURIES.

Operations for Nasal Polypi.

We will now turn our attention to that part of intra-nasal surgery which has always occupied, to some extent, the activities of medical men—the removal of nasal polypi. We have seen the skillful procedures of Hippocrates. We have seen the barbarous modifications of them by Paulus and the Arabians with their knotted strings and little saws. Velpeau,§ who gives a very much fuller account of the ancient history of this subject than I can find room for here, refers to a procedure I have not elsewhere met with in my reading. He says that William of Salicet proposed the gradual dilatation of the anterior openings of the nostrils with a sponge, or some other device, to render avulsion of nasal polypi easier of execution. The knotted strings of horse hair and of silk were soon abandoned after the Renaissance, and in 1571 Aranzi or Arantius, in giving an account of his method of dealing with nasal polypi, describes not only a for-

* Clinique Chirurgicale T. I. P. I. Edit. 1810. Obs. 7.

† Traité la Diphtheria, 1826.

‡ The reader is referred to the treatise of Sanné on Diphtheria, to Gurlt's History of Surgery, and to Louis "Sur la Bronchotomie" (l. c.) for a fuller account of the operation.

§ "Nouveaux Elements de Medicine Operat.," T. III, p. 595, 1839.

ceps with long jaws he had invented for the purpose, but he gives still more interesting details of his way of illuminating the anterior nares.* He speaks of the difficulty of blood obstructing the view in the use of the knife, and to obviate this he constructed his long forceps. He obtained illumination by placing the patient in a darkened room and making a hole through a wooden shutter to admit the ray of light, which was to fall directly into the nasal cavity, which he rendered more patent by raising the end of the nose. On cloudy days he used artificial light, magnified by a water bottle.

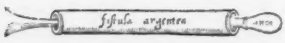
Remembering that in the sixteenth century not only were the Greek medical works more faithfully translated into Latin, but that they were more widely read in the original, we may easily conjecture that Fallopius† drew his idea of the wire snare for nasal polypi from the works of Hippocrates, but it differed very much from the devices the latter employed, and it is in very fact the modern nasal snare of Jarvis, without the wheel, of which all others at present in use are modifications. By Fallopius' reference to nasal hemorrhoids we also perceive he was familiar with the Arabian pathology, but he makes a distinction between them and ordinary polypi, practically much as we now do more exactly. The hemorrhoids were our vascular hypertrophies, and the polypi were our edematous growths, the former being noted far back in the nose (posterior parts of the inferior turbinated bones?), and the latter being situated in more accessible regions, as a rule. For the cure of the anterior growths he used the ligature, leaving it around the growth for two or three days, when it would fall off with the constricted mass. This method he did not apply to hemorrhoids or "carunculæ" in the back part of the nose. He says: "But when the polypus is well within the nose it is difficult to use the ligature, which should encircle the roots of the polyp." He mentions the forceps operation of Paulus and continues: "But I take a silver tube which is neither too broad nor too narrow, and then a brass or steel wire, sufficiently thick, preferably the iron wire from which *harpsichords* are made. This doubled I place in the tube so that from this wire a loop is made at one end of the tube, by which, used in the nares, I remove the polyp. When the polyp is engaged in the loop, I push the tube to the root of the polyp, and then pull on the metal threads sticking out at the lower part of the tube, and thus I constrict the roots of the polyp and ex-

* "Julii Cæsaris Arantii, De Tumoribus Secundum Locos Affectos," p. 172.

† "Institutiones Anatomicæ," 1600; "De Tumoribus Narium," p. 296.

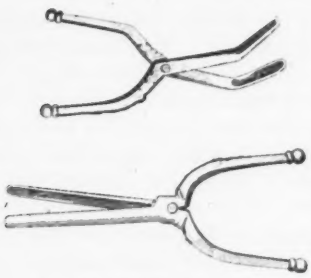
Fallopius' tractate De Tumoribus præter Naturam was first published 1573, and the publication of his snare dates back to that, but he died in 1562.

tract it, since by this wire loop the root of the polyp is cut because it is a soft substance." Harder growths he pulled down so that he could cut off the roots with a knife.



Fallopius' Nasal Snare.

Fallopius praised his instrument as very efficacious, and he used it also for polypi of the rectum. He condemns strongly the use of a cautery through a speculum, regarding the practice as dangerous. He also speaks of the string sawing method, which he had never used. His is the first improvement on the method of Hippocrates in removing nasal polypi. Fallopius died in 1562, two years before his much admired preceptor, Vesalius. The description of his snare was not published for many years after his death. Rhinologists cannot fail to be struck with the appearance, at such an early date, of what is practically a modern instrument. For some reason the advantages of the steel wire were not appreciated, and the instrument was not destined to come into use until it had been reinvented after the development of other adjuvants of intra-nasal surgery. Many snares and devices for tying ligatures around polypi were subsequently invented, but without the elastic steel wire they were little, if any, superior to the intra-nasal forceps. These latter, though used by Aranzi and even by earlier operators, came into favor principally through the advocacy of Febricius ab Acquapendente. Gurlt speaks of Dalechamps, a French surgeon of about the same period, using an instrument similar to Aranzi's, but Paré knew no better treatment for polypi than local applications and the cautery. The forceps invented by Fabricius were really scissors curved at the end. There were many modifications of them. Thus John Van Horne (1621-1770) added teeth to their points to seize the polyp with.



Fabricius' Forceps for Nasal Polypi.

Thomas Bartholinus relates to a fatal case of hemorrhage from their use, although Fabricius had boasted they were entirely safe (tutissimum).

Riolan* (1577-1657), in his works, illustrates the general practice in regard to intra-nasal surgery of this kind, which we may see was inferior to either the procedures of Fallopius, or of Fabricius, for the removal of polypi. He mentions five methods: 1. Astringent, and other local applications of drugs. 2. The operation of Celsus and Galen—cutting with a flat-pointed probe and burning the roots with a cautery. 3. When coming down behind the palate, pull it down with the forceps and cut it off. 4. It may be burned, or 5, cut off with horse hair in the manner recommended by Mesua.

Glandorp, in whose tractate† published in 1628, full references will be found to previous literature, apparently was ignorant of Fallopius' instrument, for his own device was greatly inferior to it, though it, unlike the earlier and better snare, was adopted and modified by many subsequent operators. It was a sort of a hook, a shank with a curved end and an eye at the point, through which a waxed silk thread was to be passed. A knot being firmly tied and the thread twisted, the polyp was thus ligated until upon the ninth day it would fall away. Fabricius Hildanus used a seton in the nose, and tried to get rid of the polyp by suppuration. More than 200 years after Fallopius' death, Levret published, in 1771‡, a most elaborate and exhaustive treatise, containing accounts of the

* Opera Omnia: Morbi Narium.

† Tractatus de polypo narium, etc.

‡ Observations sur la cure radicale de plusieurs polypes de la Matrice, de la gorge, et du nez.

most ingenious and complicated instruments for the ligation and extraction of polypi. Notwithstanding their ingenuity, they seem utterly worthless viewed from a modern standpoint.

Much more practical and efficient, it would seem to us, were the instruments of Benjamin Bell.* Although Heymann asserts that the first mention of Belloc's sound is to be noted in the work of Deschamps in 1805, a similar instrument is to be found described in Bell's work. He figures different forms of snares and forceps for removing nasal polypi. The best of the former is perhaps a double canula, in each tube of which the end of a pliable wire was to be inserted and drawn through, leaving a loop at the end. The double canula was then, after adjustment to the polyp, revolved in the nose, which, twisting the wire, constricted the polyp. The apparatus was then left in the nose, tightened at intervals, until after a few days the growth came away. Some of the operations performed with forceps were of the most atrocious nature. For the details of a revolting operation for polypus nasi, I commend the reader to descriptions in Le Drans works.†

After failure of evulsive methods, he used a seton saturated with some medicament of a styptic nature.

Percival Pott,‡ who mentions the wire snare, declares he has seen the septum and pieces of the palate pulled away by the forceps and other evulsive methods. He believed there were many polypi which, though not malignant, should be left alone on account of the impossibility of a successful operation. He denied with scorn the efficacy of escharotics and setons. Mann, according to Cloquet§, and Petit, and according to Garengeot‖, first split the soft palate for the extirpation of a post-nasal polyp.

The Pathogenesis of Nasal Polypi.

Some account may now be given as to the ideas in regard to the etiology and pathology of the nasal polyp. A singular conception of the etiology and pathogenesis of the polyp, in præ-Schneiderian days, may be found in Forestus. In spite of the monstrous error of conception, we may perhaps recognize the germ of the idea which subsequently became the accepted one until the rise of the Myxoma mistake in the last half of the nineteenth century. Forestus, writing in the last years of the sixteenth century, mentions (l. c.) the remarkable case of a woman

* "System of Surgery" (first edit., 1784), Am. edit. 1791, Vol. III, p. 42 seq.

† "Traité des Operations de Chirurgie," 1742; "Observations de Chirurgie," 1731.

‡ "Chirurgical Observations," 1775.

§ Osphresiologie.

‖ "Traité des Operations," T. 3, p. 52 obs. V. Edit. 1731. Garengeot does not state which of several French writers before him of this name he refers to.

in whose nostrils a huge polyp had grown "due to her carrying heavy weights on her head; it forced the mucus down into the membranes of the nose." She was cured by ligation of the polyp and the application to its stump of vitriol; but when she resumed her occupation, it again returned and was again cured in the same way.

Previous to the eighteenth century nasal polypus was still a very comprehensive term, and Van Meckren* even gave that name to a piece of wood, covered by granulations, which was expelled from the nose of a patient he was treating by local applications†.

Passing over a hundred years from Forestus, and beyond the advent of the Schneiderian anatomy, we find the idea modified by Saint Hilaire.‡ "*The polypus.* When this excrescence is hard and is not pendent they call it sarcoma, which is a great round tumor, which has not a root like the polypus; moreover, sarcoma always commences at the lower part of the nostrils, and the polyp takes its origin in the osseous lamellæ at the root of the nose. In order to well understand the cause of this excrescence, it is necessary to observe that the internal membrane of the nose is very thick and spongy, and is bathed in a sticky viscid humor, and its porosities are so arranged that it only gives passage to those parts of the blood which are the thickest and most likely to produce excrescences. All these causes joined together contribute greatly to the generation of polyp. Whenever a little heat and disturbance get into the blood, its movement increases, its viscid parts are extruded, the heat fixes them and condenses them, and their abundance in a part as spongy as the nose, furnishes the substance of the polyp, because these humors becoming arrested in the tissue of this membrane, they swell its vessels and dilate its glands; the matters congeal, and are changed into a fungous and carcinomatous mass and, by the addition of new matter, the polyp enlarges and grows. The polyp indeed may also be engendered by an acrid lymph, which erodes the glands and the channels of the internal membrane of the nose in such a manner that the nutrient juice, becoming infiltrated by the ulceration of this membrane into the interstices of its fibres, coagulates there and forms, little by little, those excrescences which they call polypi. One may again attribute the cause of these excrescences to the little glands

*"Observationes Medicæ Chirurgical." In Latinum translatæ ab Blasio, 1682.

† The earliest account of a rhinolith I have noted is by Thos. Bartholinus. It is referred to by Cloquet: Osphresiologie.

‡ "L'Anatomie du Corps Humain." Par le Sieur de Saint Hilaire, 1698. Tome I, p. 439. Des maladies du nez.

of the membrane, which, in dilating, become joined together and form that which we call polypus. The acidity of the humors may indeed contribute to the generation of these excrescences, because it can coagulate the nutrient juice, which, becoming lodged in the glands, remains there, having lost its fluidity, and new juice flowing there and coagulating, it forms a tumor in the nose, which they call a polyp."

I am sure I may be pardoned for giving room to this verbose and confused extract, because it illustrates very well indeed the new light, as yet but little appreciated, which had been shed over medicine by the discovery of the circulation of the blood and the lymph, and by the demonstration of the glands as well as by the anatomical researches of Schneider. Through it all there runs the influence of both the Iatro-chemical and the Iatro-physical school.

Although he practically adopts the classification of Hippocrates, mentioning five kinds of polypi, Dionis*, the first edition of whose surgical work was published in 1707, makes this distinction between two varieties: "One is an excrescence formed by the engorgement of the glands which line the walls of the pituitary membrane, and the other is the extension of this membrane gradually elongated." One has only to read Boerhaave and Morgagni to perceive that they also had the idea of a membrane clogged with humors. Boerhaave in his Institutiones† could only account for the formation of a polypus, by supposing that the nasal passages and the sinuses becoming clogged with inspissated mucus, the mucous membrane was unable to discharge its humors. Popular belief in the reality of lunar influences, a lingering of primeval superstition, is reflected in the works of Juncker‡ in his references to this subject. He says that according as the moon fills or wanes, the polypi of the nose increase or decrease in size. "Hence it may be concluded, it is best to attack the polyp in the waning of the moon." After this, it is necessary to add that he was a respected and distinguished medical writer in his day.

Gorter§ speaks of nasal polypus thus: "It seems sufficiently evident that the pituitary membrane is separated from the bone, often carious, in the cavity of the nostrils, so that it makes a pendulous sac, either single or multiple, according as this membrane is sepa-

* "Cours d'Operations de Chirurgie."

† "Boerhaave's Lectures on the Theory of Physic," being a genuine translation of his Institutes, 1755. Vol. IV, footnote p. 28.

‡ "Conspectus Chirurgiæ," 1721.

§ "Chirurgia Repurgata," 1742.

rated from one or more depressions of the small bones, which sacs swell with secretions collected in the cellular lamellæ of the membrane."

Heister*, the great German surgeon of the eighteenth century, adopts this pathology, and, referring to the earlier work of Palfin, who had made the same observation†, he speaks of polypi springing from the accessory sinuses and the cavities of the ethmoid.

Morgagni‡, while accepting this view, differentiates much more intelligibly than previous writers the various phases of intra-nasal disease. Referring to cases of polypi of the maxillary antrum reported by Meckren and Palfin, he says that they are much more frequently seen, at post-mortem, outside than inside the sinuses. He describes hypertrophies at the lower border of the inferior turbinated bones, which he regarded as glandular, doubtless more on account of their nodular surface than on account of histological findings, of which nothing was yet known in these cases.

The Anatomy of the Accessory Nasal Sinuses.

We will now turn to the accessory sinuses which have, of late years, assumed a position of such striking interest in rhinology that they deserve a special notice of their anatomy, physiology and pathology. Notwithstanding that Galen refers in several places§ to the porosity of the bones of the head making them of little weight, there is no direct reference, so far as I can discover, to the sinuses. As we have noted, Berengar described them, and he is credited with being the first to definitely indicate their existence. Vesalius‖ described the maxillary, frontal and sphenoidal sinuses, and asserted that they contain nothing but air. Both he and Fallopius (Institut. Anatom.), in quoting Galen, leave the impression that the latter had definitely noted the accessory sinuses. They agree with him in explaining the porosity of the bones of the head as having been created to render them less heavy. Massa, who wrote before Vesalius' work saw the light, also entertained¶ this view. We have noted that Colombo suggested the name Ampullosum for the os maxillare on account

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* "Chirurgie," 1743.

† "A surgeon of Paris once told me he had seen a polyp which had its attachment within the cavity of the os maxillare and had grown through the hole of communication into the nose; this he had observed after death." Palfin: "Anatomie du Corps Humain," II me partie, Cap. 15, edit. 1726. p 92.

‡ "De Sedibus et Causis Morborum."

§ As for instance De Usu Partium IX, 2 et seq.

‖ De Humani Corporis Fabrica Lib. I. Cap. VI-IX.

¶ Epist. Med, et Philosoph., 1542. Epist. V., p. 55.

of its sinus. After Berengarius, Fallopius* first added materially to our knowledge of the accessory sinuses. Describing the sphenoidal sinus, he says: "—there is no cavity in children until they arrive at maturity. In adults, however, it is found double and sufficiently large. It begins to form after the first year. —— Those cavities, contained in the frontal and cheek bones, are not to be found in the skulls of the newly born." After criticizing some erroneous opinions which certain anatomists had entertained in regard to the sphenoidal sinus, he says: "The third opinion is that they serve for holding the air before it enters the brain. This, while a more respectable opinion, becomes ridiculous in view of their absence in infancy," and he adds the sage remark, "Ex his colligo licere cuique philosophari, at non semper sine errore." In another trite Latin sentence he accepts the idea of Galen. "Nam natura, cum vult extendere et non addere materiam, inflat et faciat ut illæ partes sint leviores." Notwithstanding the fact that this ancient view is still the accepted one, so far as we at present indulge in any teleological speculations at all, there have always been numerous divergences of opinion as to the uses of these cavities. Thus Vesalius† says: "There is much doubt as to their use. Each one forms his own conjectures. Some, as Placentinus, claim they contain mucous humor which is distilled into the nares; others that they serve to make the voice more resonant, because in those who speak badly they are not found. Some think the air is elaborated in them for the generation of the animal spirits. Spigelius thinks they are for drawing in the odors. Others think they contain the humor by which the eyes are moistened and lubricated." He himself accepted the view of Galen. A reference to Spigelius will show that he also regarded the sinuses as adding a sonorous quality to the voice‡, and Bartholinus supported him in this§, asserting they were not present in those of a faulty voice. Both Fallopius and Veslingus, as well as Jessen (1601), supposed they were also instrumental in the generation of the animal spirit. Jessen and Bartholinus believed the frontal sinus contained a viscid liquid, which lubricated the eyeball. Paaw‖ speaks of the frontal sinus as containing a viscid matter, not dissimilar to the substance of the brain, but, "Far more likely in my opinion is the use of this

* Gabrielis Fallopii. Obs. Anatom. Frankfort Edit., 1600, p. 367.
† "Syntagma Anatomicum." Appendix. Pars XIX.
‡ De Human. Corp. Fabr., 1645.
§ Anat. Reformat., 1658.
‖ De Human. Corp. Ossibus., 1633.

cavity that of receiving the air drawn through the nostrils into it, so that it may be better assimilated and prepared for the brain. Unless it is thus properly prepared by this and other sinuses, the ingress of this crude and unprepared air causes catarrhal troubles of the brain." These opinions of more original observers are reflected in a curious book§ on anatomy published in English, evidently for popular use, by a Dr. Alexander Read, in 1642. He speaks of the frontal sinuses as double in childhood, but one in those of ripe age. "These cavities contain a clammy substance, kept in by a green membrane. They are for the retention of the odor, before it is carried into the brain." As for the sphenoidal sinus, he says, "there is a cavity like to those above the eyebrow," but he speaks of the ethmoidal as furnishing a way for the excretions of the brain. Schneider's works finally revolutionized all this. He declared that the sinuses had nothing to do with the animal spirit and were empty. The latter opinion, however, made its way very slowly. Almost a hundred years after Schneider, the great Boerhaave declared, in his lectures, not only that acuteness of smell largely depended on the size of the frontal sinus, their presence allowing a greater extent to the pituitary membrane, but he also was of the opinion that they acted as reservoirs for the nasal secretions. He remarks that the reason why children's noses are always running, is that the accessory sinuses are not sufficiently developed to contain the mucus. Much of Boerhaave's nasal pathology was based on this conception. The fluid, which the earlier anatomists supposed they contained, was thought to have come from the brain. After the publication of Schneider's works, Diemerbroek still believed, as has been stated, that it came from the brain, but through the mucosa which lines the nose and its cavities, thus keeping the latter full. Vieussens (born 1641) supposed they contained a thick fluid, filtered out of the blood on its way to the brain. Much later the great Haller* in the eighteenth century accepted this view, intimating they were reservoirs for lubricating the nasal mucosa. Verheyen (1648–1710) had, however, previously asserted they were empty. Reininger partook of the view of Haller, saying the sinuses were so arranged as to the nasal cavity that whatever position we are in, their contents will drain out of one or more of them, collecting in the others, until they in their turn are emptied by a change of position. Morgagni* declared the maxillary sinus was occasionally

§ "The Manual of Anatomy, or Dissection of the Body of Man."

* Elementa Physiologiæ Corporis Humani. T. V.. P. 180, Liber XIV—V.

* *Adv. Anatom.* I. p. 38—VI. p. 116.

absent. Weinhold (1783–1829) thought the sinuses were cavities, which suck the impurities out of the blood and hold them, and that they are to be regarded as the equalizing apparatus, the "equatorial bearers" of the arterial system throughout the animal kingdom.* The frequency with which the accessory sinuses have lately been found, post-mortem, to contain sero or muco-purulent fluid, satisfactorily accounts for this divergence of views. A more palpable error was committed by Spigelius, Bauhinus, Laurentius, Paaw and many others in supposing that the sinuses are lined by a green membrane. It was pointed out by Schneider that this condition was entirely due to post-mortem changes.

Wounds of the Accessory Nasal Sinuses.

Early surgeons were familiar with the wounds, but not with the diseases of the frontal sinus. Hence we find at first no reference to the intentional opening of it, but evidently it was occasionally inadvertently included in the field of operation in trephining for cranial fractures. Ambroise Paré†, speaking of the wounds of the head, warned against trephining the frontal sinuses, as they are "filled with white sticky fluid as well as with air." Elsewhere‡ he says that he had seen a surgeon trephine the sinus, in wounds of it, under the impression the brain was injured. "Wherefore it is necessary for the surgeon to become acquainted with this cavity, which he can do by breaking open several heads of the dead."

Fabricius Hildanus (l. c.) speaks of wounds of the frontal sinuses "not healing easily and often degenerating into fistulæ and malignant ulcers." "The wounds of these cavities have such a large communication with the eyes, that I have seen acrid and corrupted pus, which flows from these cavities, fall upon the conjunctiva and push the eye out of place." Verheyen§ says that he was once present at an operation on a sheep, for the removal of worms from the frontal sinus, but the animal died because the operation was too extensive. Palfin had seen the same mistake as Paré, and his differential points to distinguish the frontal sinus from the cerebral cavity in wounds of the head were: 1. "When one sees mucus coming out of the wound. 2. When air is blown from the wound by expiratory effort with closed mouth and nose. 3. The penetration of injected bitter water from the wound to the throat, or 4. Its discharge from the nose." He relates several interesting cases where this mistake was made.

* The incompleteness in the references, to be here noted, may be supplied by referring to the much more exhaustive history given by Zuckerhandl, Normale und Pathologische Anatomie der Nasenhohle Bd. I, 1893, S. I.

† "Chirurgie," Livre X, Chap. 21, Edit. 1564.

‡ Livre V, Chap. 4.

§ Quoted by Palfin: "Anatomie Chirurgicale," part II, p. 93, Edit. 1726.

Worms in the Accessory Nasal Sinuses.

The remark of Verheyen, in regard to worms in the frontal sinus of a sheep, finds a precedent in human pathology in the observation of Beniveni, published as early as 1507*. He relates the case of a friend of his by the name of Phillip, who suffered atrociously with such pain in the head that his eyes grew dim, his mind wandered, vomiting occurred, the voice was lost, the body was cold and even life itself seemed lacking, but when death really seemed imminent and there seemed no help, he suddenly passed from his right nostril a worm as long as a palm's breadth, and of a most robust nature, and all his anguish was relieved.

Morgagni,† referring to Littré as having, in 1704, conceived the idea of trephining the frontal sinuses, says that Mangetus, according to Vallisnieri, had performed the operation for the removal of a worm whose presence he had diagnosticated as giving the patient great pain. According to Cloquet,‡ Vallisnieri was the first who spoke of worms in sheep's noses from the true standpoint, but Morgagni, speaking of worms being frequently found in sheep's noses and rarely in man's, credits Fernelius§ with having first declared that the brain was not the origin of worms in the nose. This subject of worms in the nose was exhaustively discussed in the first part of the eighteenth century by Salzmann and Honold.‖

The following is from Boerhaave's "Institutiones" No. 792:

"There was a distressing example of a girl at Rotterdam, whose six pituitary sinuses were all full of worms, which kept on growing and appeared from hour to hour; and this girl I cured by a slight fumigation with cinnabar and a decoction of tobacco in water, which, being snuffed up the nose, obliged the worms to move their quarters."

Perhaps the earliest reference to what may have been sinus suppuration is to be found again in Fernelius: "There forms sometimes abscesses around these places without fever or very much pain, and after their rupture I have seen true pus run in abundance from the nostrils, as it comes out of purulent ears, and this without any prejudice to the general health." Morgagni (l. c.), from whom I have quoted this extract, comments on it, saying

* Antonii Benivenii, de abditis nunnullis ac mirandis morborum et sanationum causis, 1507.

† De Sedibus et Causis Morborum Liber I. De Morbis Capitis, Epist Anatom. Med. XIV sec. 20 et seq. 1762.

‡ "Osphresiologie," p. 617.

§ Fernelius, born in 1497, died 1538, was the physician who cured the beautiful but frail Diana, of Poitiers, and is said to have been the first, since the time of Al-Mamum, the Arab, (876-833), to calculate the circumference of the globe.

‖ De Verme Naribus Excusso, in Haller's "Disputat. ad Mobr. Hist.,"I, 385, 1721.

that doubtless Fernelius was referring to the accessory sinuses, "for how could a man like him suppose the pus came from the anterior cavities of the brain?" One might answer, that without the anatomical knowledge supplied by Schneider 100 years later, it would have been strange if Fernelius thought of the pus or the worms either, as having come from any place but the brain. One is therefore not surprised on turning to the passage,* evidently referred to by Morgagni, to find no warrant for supposing that Fernelius suspected the true origin of the pus or the worms. His work appeared first 1567.

Surgery of the Maxillary Sinus.

Nathaniel Highmore, in 1651, described† the sinus, which bears his name, and gave some poor representations of it. He, however, mentions a case of suppurative disease of the cavity in a woman who had some bad teeth in the upper jaw. This was before the publication of Schneider's work, though, as we have seen, the sinuses had long been well known.

Velpeau‡ quotes Molinetti, who wrote in 1675: "In a patient suffering from terrible pain, they made a (external) crucial incision on the jaw, and with the crown of the trephine penetrated into the antrum of Highmore, which was the seat of the abscess."

Morgagni intimates that Jean Henry Meibomius, who died in 1655, invented what we now know as Cowper's operation for opening the maxillary antrum, and his son practiced it. Velpeau says that Zwingler, before Meibomius, pulled out teeth and, dilating the alveoli with a sponge, made exit for pus from the antrum. There were three medical authors by the name of Meibomius, apparently different generations, but their works, as well as that of Zwingler, are inaccessible to me. William Cowper contributed the chapter on the diseases of the nose to Dr. Drake's "Anthropologia Nova," which was published first in 1717, and there§ is to be found the description of the operation as we know it.‖ " * * * By all which, it appears with what difficulty any peccant humor, lodged in either of these cavities, can be discharged by the foramina narium, since these cavities must be either filled up to the top ready to run over first, or the head must be held down to procure the discharge. This induced me to put into practice an operation, in the cure of

* Johanni Fernelii Ambiani, "de Morbis Universalibus et Particularibus," Edit. 1656 Lib. V Cap. VII.

† Corporis Humani Disquisitio, 1651.

‡ Nouveaux "Elements de Medecine Operatoire," 1839, VII, p. 608.

§ Vol. III, Cap. 10, p. 305, Edit. 1717.

‖ From the spelling which is usually employed (Cooper) doubtless many have attributed this operation to Sir Astley Cooper, who lived a hundred years later.

ozena, which appeared reasonable to me by the structure of the part, I being convinced it might be done without hazard to the patient. After the foremost Dens Molaris was taken out, not finding an aperture from its alveolus into the antrum, which in other instances I have seen happen, with a convenient instrument I bored the hole of the alveolus into the Antrum Genæ, whereby the pus, which before lay in the antrum, ran out, and the medicines that were daily injected by this aperture passed into the nostrils, whereby the patient was cured, though this disease had continued, with a vast flux of stinking matter daily from the nose, for more than four years before the operation." Besides another case operated on in the same way, he relates the history of an old man in whom the maxillary antrum was opened. Carious bone came away with the teeth, when extracted, and the man soon died from convulsive disorders, when, on post mortem, a fistulous tract was found through the Foramen Lacerum; the opposite side of the os sphenoides was also perforated and the dura-mater laid bare but not perforated; but on the contrary it was inflamed, and very much thickened on that side of the head: "I found an aposthemation in the cortical substance of the fore part of the hinder lobe of the brain, though covered with the pia mater, in which was about an ounce of fetid matter." He also first suggested the perforation of the antrum on its anterior surface. According to Portal*, Lamorier, a surgeon of Montpelier, born in 1717, proposed, as the result of his own investigations, to open the sinus more posteriorly, between the malar tuberosity and the third molar tooth. Jourdain, a Paris dentist, in 1765 reported to the Royal Academy of Surgery of Paris a method of washing out the Antrum of Highmore through the natural opening.† He also is credited with the observation, which of late has again been brought into prominence, that fetid matter is often found in the maxillary sinus of those who had succumbed to adynamic or ataxic fevers. For opening the sinus Desault used a sharp triangular perforator, Runge used a knife, and Chas. Bell a trephine. I further translate from Velpeau the following: "In a patient, who had no longer any molar teeth, the idea occurred to Gooch‡ to perforate the Antrum of Highmore from its nasal surface. This method was also proposed by John Hunter in his treatise on the human teeth in 1778. Ol. Acrel§ had already followed an almost similar procedure,

* See Velpeau, l. c., who gives a very exhaustive account of the earlier literature, but unfortunately without exact references.

† "Journ de Med. Chir. Pharm.," etc., Paris, 1767, XXVII, —52, —157.

‡ An English surgeon who died in 1780.

§ A Swedish surgeon born in 1707 and died at 90 years of age.

that is to say, after operating in the manner of Cowper he placed a second canula through the nose into the sinus. * * * A buccal fistula of the maxillary sinus suggested to Ruffel* the idea of penetrating there with a perforator, making it come out above the gum in order to establish a counter opening. A seton was then passed and kept in the opening for six weeks, working so well that success crowned the efforts of the surgeon. Callisen (1740–1824) followed this plan. * * * Bausch and Henkel succeeded by passing a seton through a fistula in the floor of the orbit and bringing it into the mouth through an alveolus. Bertrandi resorted to a like plan, not, however, using the seton. Weinhold (1810?) went through from the upper part of the canine fossa into the antrum and thence through into the palatine vault. Jussi operated in much the same way."

On reference to Callisen's work† I find that he refers to abscesses of the frontal and maxillary sinuses. He advised operation by trephine on the former, and perforation through the canine fossa in the latter. He advises that the opening should be kept pervious by a linen tent, or a sponge, or a tube made of elastic resin, (resinæ elasticæ—rubber?) or of gold, so arranged that it will not slip into the cavity. He declared that penetration through the hiatus-semilunaris, as recommended by Jourdain, is often impossible. He was also familiar with polypi in the Antrum of Highmore. I am sure any one, reading these accounts of operations on the Antrum of Highmore for suppurative disease, will perceive that all the recent procedures, which have been of late so exhaustively and frequently described, have been long anticipated in surgery. Tumors of the maxillary sinus we have noted as having been reported by Palfin and others. Van Ruysch reported finding two at post-mortem.‡ In the *Journal de Desault* in 1791 is an account of an operation of considerable gravity by Plaignand in 1784 on a tumor of the maxillary antrum which was successful.§ Another case is reported‖, in which the disease was allowed to pursue its course unmolested, and the patient died three years after its inception.

Diseases and Surgery of the Tonsils.

It remains to say something in regard to diseases of the tonsils during the period with which we have been dealing. Very little advance is here to be noted. Beside the hypertrophy, disease of the

* I can find no other reference to a physician of his name.
† "System a Chirurgiæ Hodiernæ," Vol. I, p. 343, et seq., 1798.
‡ Frederici Ruyschi Opera Omnia Obs. LXXVII, Vol. I, p. 71, Ed. 1737.
§ T. I., p 111.
‖ Ibid. T. II, p. 278.

tonsillar structure is rarely alluded to independently of acute throat inflammations. Sydenham incidentally made the singular remark, but doubtless well founded, that red-haired people were more liable to tonsillar inflammation than others. Ettmüller,* in his remarks on inflammation of the tonsil, draws attention to the gaping of the foramina. "On account of this," says he, "when these tonsils are swollen and more or less inflamed these foramina gape and are more conspicuous, so that they are taken for ulcers by the inexperienced surgeons." Fallopius had also drawn attention to this point, still frequently the source of error.

As to operations on the tonsils, coming down as late as the middle of the eighteenth century, we find surgeons still, as ever, with a wholesome respect for tonsillar hemorrhage. Heister's category (l. c.) of operations on the tonsils is: 1. Corrosive applications. 2. Abscission according to the methods of the Ancients. 3. Ligation, using the apparatus of Hildanus for the uvula. Cheselden, he says, applied such a ligature by means of a sound. Benjamin Bell (l. c.) employed his double canula snare for ligature of the tonsils, in the same manner as for nasal polypi. A method, which he also ascribes to Cheselden, was to pierce the tonsil with a double threaded needle, and tie off each half of the tonsil in a ligature. Even such a radical operator as Desault†, although he performed tonsillotomy with an instrument he called Kiotom (Uvulotome), yet in pusillanimous patients he used a ligature put on with a forceps, and tightened for a day or two until the tonsil fell off.

Anatomy of the Nose and Throat in the Eighteenth Century.

In the eighteenth century but few advances are to be noted in the gross anatomy of the nose and throat when compared to the much greater strides made in the sixteenth. Still there were some. We have already noted the description of the pharyngeal tonsil by Santorini. He first described the cartilages in the larynx which have taken his name, declaring they are found in man but not in animals. He drew attention to the great mobility of the crico-arytenoid joint, and gave the first intelligent account of intra-laryngeal movements.‡

Bertin described the sphenoidal turbinated bones.§ Meckel and Ackerman and Daniel wrote learned and valuable treatises on the nervous system of the nose and throat.‖ Valsalva had

* Opera Omnia. 1686.

† "Œuvres Chirurgicales, Vol. II. Edited by Bichat.

‡ "Observationes Anatomicæ." 1724, De Larynge.

§ Description de deux os inconnus, par M. Bertin, "Mem. de L'Academie des Sciences," 1744. p. 298.

‖ Ref: "Sprengel," VI, 162.

written his great work on the ear* which was first published in 1705, and described more accurately the palatal muscles, but not his least claim to fame in the annals of medicine is the fact that he was the preceptor of Morgagni, and started him upon that series of observations at the post-mortem table, which has resulted in the firm basis modern medicine now has in pathological anatomy. The predecessors of Morgagni were too much occupied with rare cases and fabulous histories, the curiosities of Medicine, to make much advance in this direction. Post-mortem examinations were not infrequently made in the seventeenth century, and even in the sixteenth century. Thus we find Tulpius, who rivaled Bontekoe in his devotion to tea and tobacco as panaceas, describing† a malignant tumor of the pharynx and œsophagus observed during life and examined post-mortem. Incidentally in many epistles of Thomas Bartholinus and of many others there are scattered accounts of the study of lesions found post-mortem. Bonet is the first who systematically recorded‡ the history of cases and the results of observations on opening the body after death, but his work is a most verbose, unclassified, and entirely unreadable record of much which might in other hands have been valuable. In it we find the confirmation of Schneider's observations, but in his zeal to prove that the blood vessels carry the nasal discharges, he exaggerates and distorts the significance of anatomical facts. He taught that the mucus was derived from the blood and lymph vessels of the glandular mucosa, and that in the brain they absorbed and carried away its secretions. Nevertheless, he opened the way for the observations of Valsalva and his great pupil, Morgagni. It may be remarked that the latter refers to Bonet as having reported some cases of laryngeal tumour observed post-mortem, but I have been unable to find the reference.

Pathological Anatomy.

Morgagni.

Although the immortal "De Sedibus et Causis Morborum" was not published in its entirety until 1762, when Morgagni was nearly eighty years old, his "Adversaria Anatomica" was published when he was a young man (1706–1723). A few points of interest to us may be found in it. He was somewhat influenced by Van Ruysch§ in his description of the nasal glands. The tracheal glands first mentioned by Laurentius he describes more fully.‖ He speaks also

* "Valsalvæ Opera." 1742 Auris Descriptio. Cap. II, XIX.

† "Observationes Medicæ," 1641, Lib. I, Cap. 44.

‡ "Sepulcretum" first edit. 1679, another and enlarged edition by Mangetus in 1700.

§ Advers. Anatom. VI, Animad., 89.

‖ l. c. I., 25

of the laryngeal glands* and made the singular mistake, on noting the cuneiform cartilages, of describing them as glands. This mistake many years later was corrected by Wrisberg,† whose name they now bear. Morgagni passes in review the anatomical facts brought to light by early anatomists as to the cartilaginous framework of the larynx.‡ Galen first noted and described the ventricles of the larynx, giving them that designation, but Morgagni's name has been attached to them on account of his more elaborate description. He also described the Appendices laryngis ventriculorum.‖ He supposed that the ventricles are instrumental in modifying the voice, but he warned against the reasoning from animals like the frog to man, various authors having explained their function in this way. Nevertheless, he thinks this more probable than that they form reservoirs for mucus to lubricate the cords. He ascribes this opinion to Verheyen. He points out that the surrounding mucosa is quite as well supplied with glands as are the ventricles.

Deviations and Spurs of the Nasal Septum.

When we turn to his more celebrated work we find that the first subject which engages our attention in the chapter which he devotes to the nose and ear is that of deviation of the septum¶. Quelmalz** had in 1750 written a treatise on this subject, the first, so far as I know, of its kind. It is still a readable thesis, in which much which is discussed in modern rhinological literature may be found intelligently set forth. Among the causes of the conditions he mentions, are pressure on the nose in difficult labor, falls in infancy, the continual thrusting of the finger into the nose in childhood, inflammatory conditions, and others, which we do not now regard as efficient. He speaks intelligibly of the symptoms and the sequelæ, but says nothing of the treatment. Morgagni, criticizing him for not mentioning exuberant growth of the cartilage, speaks of often finding this condition on post-mortem dissection. Deviation of the septum, he declares, is often natural, and he warns observers

* l. c. V., 42.

† In the notes to Haller's Primæ Lineæ Physiologicæ edited by Wrisberg, this error was pointed out in 1780.

‡ l. c. I., 23.

§ l. c. I., 16.

‖ l. c. V., 42, V. 43.

¶ The De Sedibus et Causis Morborum has been carefully translated into French by Desormeaux et Destouet, and some readers will find it more convenient to consult this ten volume edition than the original Latin work. The same references apply to that. See "Des Maladies des Oreilles et du Nez" No. 16 Tome II., p. 343 et seq. Edit., 1820.

** Programma de Narium earumque septi Incurvatione. Haller's Disputat. ad Morborum Historiam, 1757. T. I., p. 377.

against being deceived by those who write in an absolute manner that the nose is divided into large equal cavities by an intermediate septum. On the other hand, "To this error another is opposed by those who say the septum is always inclined to one side or the other, except in children." He had seen in adults many straight septa. Then follows the explanation of the cause of deviated septa which still holds good after 150 years: "The too rapid growth of the septum relative to the other bones of the upper jaw, from which reason there necessarily results a curvature." He also described very carefully a septal spur without deviation in an old woman. I have already had occasion to refer to Morgagni's views on nasal polypi and his notice of hypertrophies of the inferior turbinated bone, which he regarded as glandular.

The Cerebro-Spinal Fluid.

Bidloo* had described a case in which cerebro-spinal fluid had escaped from the nose as a result of injury. St. Clair Thomson† has quoted another case, reported previous to this by Willis‡ whose nervous fluid theory Bidloo earnestly combatted. Morgagni§ had also seen such a case. He was also aware of the existence of what was afterwards known as Jacobsons' organ, which had been noted by Steno and Van Ruysch.

I will reserve Morgagni's important observations on laryngeal ulceration until I have occasion to trace the history of laryngeal phthisis, introducing here, however, his notice of slight irritation in the auditory canal as a cause for persistent cough.‖

Lieutaud was the follower of Morgagni, and recorded many interesting observations made at the post-mortem table, but his work is really nothing more than a note-book, unclassified for the most part, and without any deductive instruction. Besides laryngeal and tracheal polypi and ulceration of the larynx, we find¶ this remark on

Diphtheria.

the pathological conditions in the air passages of a girl evidently dead of diphtheria: "Glottidi hærebat materia quædem mucosa. Interior tracheæ facies crusta viscida and purulenta investiebatur," etc. There are records of other cases of a like nature. He observed pus in the frontal and occipital (sic) sinuses.**

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* "Exercitat. Anat. Chirurg. Dacas," 2, 7, 1708.

† The Cerebro-Spinal Fluid, 1899.

‡ Cerebi Anatome.

§ L. c. No. 21. He apparently did not recognize it as of cerebral origin.

‖ L. c., XIX, 54.

¶ "Hist. Anatom. Med.," 1767, Tom. I, p. 435.

** "Tom.," II, p. 292.

A CASE OF MALIGNANT GROWTH OF THE UVULA.*

BY F. C. RAYNOR, M D.,

Surgeon, Throat Department of the Brooklyn Eye and Ear Hospital.

Malignant neoplasms of the uvula are of very rare occurrence. As an illustration thereof, I may state that in my fifteen years' service in the throat department of the Brooklyn Eye and Ear Hospital, embracing some 14,000 cases, none such has been encountered. The following, therefore, seems worthy of being placed on record.

Mr. S., aged 66 years, first consulted me June 12, 1901, being referred to me by Dr. F. C. Paffard. He complained of a constant irritation of the throat, an inability to sleep except when lying on the right side, owing, as he described it, to shortness of breath, and an escape of saliva when in the recumbent posture. He had an attack of grip in January, of the catarrhal form, but his throat did not trouble him especially, till March, since which time his discomfort has been continuous and increasing. The patient was of fine physique and good general health, and there was no family history of malignant disease. His uvula was amputated thirty-five years ago, and he had antral suppuration fifteen years ago, which was cured by drainage through an alveolar puncture.

On examination I found an elongated and edematous uvula, behind which was a nodular mass, strongly suggesting a pharyngeal adenoid. Further examination showed that this mass was connected to the posterior surface of the uvula, its upper margin terminating on a line with the velum, extending about one-fourth of an inch on each side, and about half an inch below the tip of the uvula, the whole forming a flattened cylinder about one inch long, three-fourths of an inch wide and half an inch thick. It was slightly eroded at the end. There was no interference with deglutition or phonation. Examination was difficult, owing to the natural formation and extreme irritability of the part, but I finally satisfied myself that there was no further pharyngeal involvement. The nose was also free from any growth. Although there was nothing

*Read before the Kings County Medical Association, Jan. 14th, 1902.

to indicate syphilis, as a matter of precaution, anti-specific treatment was instituted, and local detergent, and sedative applications ordered. The result of the foregoing being negative, operative methods were resorted to. June 28 the growth was removed by the cold snare, under ether anesthesia administered by Dr. Paffard. It was intended to employ the galvano-cautery loop, but even under deep anesthesia the irritability was so extreme that it was impossible to safeguard the surrounding tissues, therefore this procedure had to be abandoned. The growth was snared off well above its point of inception, the operation was practically bloodless, and healing prompt and uneventful. The growth was photographed and submitted to a pathologist with the request that the specimen be preserved.

Unfortunately the plate proved defective, and the pathologist inadvertently neglected to preserve the growth, so that I am unable to show you the existing conditions as I intended. Although the advanced age of the patient favored the probability of malignancy, still the absence of symptoms characteristic of malignant growths, i. e., pain, hemorrhage, adenopathy, cachexia, etc., led me to hope that this was benign in character. This idea was strengthened by an experience I had some years ago, when a growth of very similar appearance and behavior, having its origin at the base of the tongue, proved to be benign, although the pathologist reported it as malignant.

Knowing the beneficent effect of arsenic, in epithelial and sarcomatous growths, as exemplified in the teaching and practice of my colleague, Dr. S. Sherwell, as a matter of precaution, I at once put my patient under the influence of the drug, which was so illy borne, that the quantity administered was comparatively small. After considerable delay the report of the pathologist was received. It was extremely guarded, and was to the effect that the growth was atypical, was in all probability malignant, and the examiner was disposed to class it among the carcinomata.

The history of the case subsequent to the operation, is as follows: The patient was seen at intervals of one to two weeks. There were no subjective or objective symptoms till about October 1, when, after his summer sojourn in the mountains, he returned to the city and contracted a cold. He then complained of a sore throat, but there were no signs of recurrence, only those of a general pharyngeal inflammation. The usual treatment for such con-

ditions gave no relief. He continued to complain of severe pain, referring it to the base of the tongue and larynx, although nothing could be seen. On December 6, after a two-weeks' interval I discovered a small fungous growth just to the left of the site of the operation, growing downward from the border of the velum. Four days later a localized swelling on the hard palate to the right of the median line, about a half inch in diameter was observed, together with a linear erosion, extending upward from the fungous growth above mentioned.

At the solicitation of friends, the patient moved to Manhattan the following week, for treatment by the X-ray.

66 Livingston St.

Case of a Parasite—"Argas (or Ornithodorus) Meguini" (Dujes) —in Each Ear. J. C. SIMPSON. *"Lancet,"* April 27, 1901.

A patient brought the author a living specimen of this tick, which he said had come from his right ear of its own accord on the previous day. Nothing abnormal was found in that ear, but on removing some wax from the other a parasite similar to, but smaller than, the other specimen was plainly visible closely applied to the drum. As it is very important not to leave any portion of the suckers or hooks in the tissues, more especially in the drum, by soaking a small pledget of wadding with chloroform, and inserting it into the canal for a few seconds, the tick was rapidly killed, and was easily removed by syringing. On examination, it was found to be entire, and no injury was visible to the drum of either ear.

The previous history of the patient was that he had camped out in Arizona in the month of June. He returned to his home in Massachusetts, U. S. A., at the end of that month, and then "had some curious sensations in the left ear, a sort of pain above the ear, and a rattling sound in the ear. These feelings decreased and had almost passed away, though the rattling was occasionally heard" up to August 25, when the live parasite came from the right ear, which apparently had not been the subject of any striking abnormal sensations.

The article is illustrated by drawings of the parasite. It is about three-sixteenths of an inch in length, and the magnification of the photograph is slightly over ×6. The larger living specimen was more than double this size, and broad and thick in proportion. In color and general appearance its body resembled an unroasted coffee bean.

ST.-CLAIR THOMSON.

TWO UNUSUAL CASES OF HEMORRHAGE FOLLOWING ADENOTOMY AND TONSILLOTOMY.

BY DUNBAR ROY, M. D.,

Clinical Professor of Eye, Ear, Nose and Throat Diseases in the Atlanta College of Physicians and Surgeons.

Hemorrhage, immediate or secondary, following the removal of tonsils, is an accident liable to occur with any case. Up to the age of ten years, the danger of hemorrhage is at its minimum, and scarcely ever will one be annoyed by this accident when removing tonsils in the very young. This statement must be modified so as not to include patients with the so-called hemorrhagic diathesis.

Hemorrhage to an annoying degree following the removal of adenoids, is still less liable to occur, and yet "all things are possible" even when we think we are most securely fortified. Dr. W. A. Martin, of San Francisco reported in The Laryngoscope, of July, 1899, a series of three cases where he was troubled with severe hemorrhage following the removal of adenoids. In all of these cases the operation was performed with the Gottstein curette as is done probably by the majority of operators. Personally, I always prefer the forceps, for I am firmly convinced that you are much more liable to be annoyed with troublesome hemorrhage following the operation when the curette is used than when the forceps are resorted to.

An unique experience with two recent cases, prompts me to report the same:

Case 1. Miss N., age 15, was brought to my office by her mother to find out why her daughter breathed so constantly with her mouth open and was troubled so much with a collection of mucus behind the nose. The patient was a well grown, healthy looking girl with good color. She had a most excellent throat to examine, in that both probe and posterior mirror could be used simultaneously. I found a bunch of adenoid tissue in the nasopharynx which was evidently the source of her trouble. As she had such perfect control of her soft palate, I cocainized the adenoid tissue, used the suprarenal extract and then removed a small piece

with the post-nasal cutting forceps. There were but a few drops of blood following the operation. Having decided to remove all the adenoid by degrees, the patient was allowed to return home. This was at 11 o'clock a. m. At 2 o'clock I received a telephone message that the patient was bleeding excessively from the throat and with the request that I come out as soon as possible. This I did and found the patient rather weak and pale from the loss of blood. A large clot had formed on the nasopharynx and this hung down below the soft palate. Alongside of this the blood was trickling down. I first tried a solution of the suprarenal extract run through the nose. This was tried faithfully, but without results. I then introduced a soft catheter through the nose and allowed a clot to form around the end in the nasopharynx. This stopped the hemorrhage, and, thinking that if this could continue for a short while, the bleeding would be stopped permanently. I made the catheter fast in the nose and directed the patient to be kept perfectly quiet. This proved to be adequate for two hours at the end of which time I was again summoned for the renewed hemorrhage. I then decided to plug the posterior nasal cavity. This I did twice without result. I then introduced the third tampon, making it as large as possible. In about two minutes after its introduction the patient fainted and it was not until then that the hemorrhage ceased. The patient was kept quiet, fed on liquid diet and at the end of thirty-six hours the plug was removed. No further trouble was experienced and the patient was out again in two weeks.

This patient presented none of those appearances usually found in those of a hemophilic diathesis. On inquiry, I ascertained from the patient's mother that the daughter's monthly period was due at the time of the operation but had not made its appearance. It did so a few hours after the hemorrhage ceased. The question very naturally arises, was this not one of the anomalous cases of vicarious hemorrhage persisting after an exciting cause? The question of secondary hemorrhage following the use of the suprarenal extract also presents itself. I am inclined to the first theory being largely fortified by my previous experiences in the removal of adenoids. Such persistent hemorrhage even after the post-nasal space has been plugged, certainly argues some systemic dyscrasia. In the future I shall certainly always be more careful to inquire as to the catamenial period before attempting any operative procedure.

Case 2. Annie S., age 4, was brought to my office to have her tonsils removed. The engagement for the operation was made on the advice of the family physician, the case never having been seen by me. The tonsils were found to be enormously hypertrophied. The child was apparently well nourished, but pale and exceedingly nervous. The right tonsil was quickly removed with a McKenzie's tonsillotome and was followed by the usual amount of bleeding. By the wishes of the parents one tonsil only was removed. This was done on Saturday, and during the next three days the father telephoned me that the little patient had had absolutely no trouble. On the following Thursday morning early, I was telephoned for to see the patient who had vomited about a pint of bloody grumous material. The blood was clotted and of a bright red color. The mother informed me that there had been a little bleeding on the day previous, but as it did not run out of the mouth she concluded that it was of no consequence. As the child's pulse and general condition seemed good, and no blood appeared at the mouth when head hung over the bed, I ordered the child to be kept in bed, for her to be given cracked ice and ice cream internally and to report if there was any further trouble. Nothing was heard from the patient until 1 o'clock that night, when I was again telephoned that the child had vomited another large amount of blood and was very weak and pale. I found the child asleep on my arrival. The pulse was regular and not unusually rapid. From previous knowledge, I felt that if I attempted to examine the child's throat, the crying, muscular exertion and nervous shock would do more harm than good, and in a child of that age very little could be accomplished locally without the use of a general anesthetic. I then had the child given 1 grain of the powdered extract of the suprarenal capsule every two hours, the whole amount mixed with the second spoonful of ice cream. This to be done for twelve hours, the child in the meantime being kept quiet. Whether such bleeding as was there stopped naturally or was influenced by the suprerenal extract, I do not know. However, we had no further trouble and the child made an uninterrupted recovery.

A case of this kind is always annoying to the laryngologist. Here is an only child, nervous, over-indulged by anxious parents and going into violent spasms of screaming on the least attempt to look at the throat. Mild expectant treatment in cases of this kind is certainly the best discretion when the physical signs show

no alarming conditions present. I have searched carefully in the various text books and literature, for any reference to similar cases, but have been unable to find even a reference. Naturally, one might say in reference to the first case that no one should operate during the climacteric period, and yet few of us are always careful enough to inquire into the physical state of the patient when about to remove a small piece of adenoid tissue. Such an experience as the above should certainly warn us of this possible concomitant danger, and reference to it should at least be made in those text-books which pretend to be a complete guide to its readers.

In the first case the interest centers in the fact that secondary hemorrhage occurred five days after the operation of removing the tonsil, an interval longer than any I have found in the literature bearing upon the subject. Then, again, the fact of the hemorrhage taking place in a patient so young is unique in itself. We find cases reported of secondary hemorrhage in the adult, but none where the patient was so young as the above.

Grand Opera House Block.

"On the Use of A. C. E. Mixture and Ethyl Bromide For Adenoid Operations."—J. W. GLEITSMANN, *Medical Record,* Dec. 2, 1901.

Since 1894 the author has employed ethyl bromide for the production of anesthesia in these operations, and prefers it to any of the other anesthetics for short operations. The operation is performed in the upright position, with the aid of two trained assistants.

When the A. C. E. mixture was given, the anesthetic was started with the patient in the recumbent position, and after the patient was thoroughly under its influence, the child was gradually raised to the upright position.

Though extensively employed by the author he had but one accident (attack of suspended respiration), due to a tight band of a skirt which had not been removed. The child promptly recovered by the use of the ordinary methods. At present the ethyl bromide is used by the author almost exclusively with pleasant results. An air-tight mask should be employed and this should be pressed firmly on the child's nose and mouth. Merck's one-ounce glass tubes are recommended, as they give very little waste. (The abstractor can testify to the sense of security one feels in administering this prompt and safe anesthetic.)

M. D. L.

CORRESPONDENCE.

Port Huron, Mich., December 9, 1901.

Editor The Laryngoscope :

In the September number of The Laryngoscope I noticed an article by Dr. Chappell on the "Diagnosis of Adneoids in Infancy," and out of between four and five hundred examinations has not found a case in any child under three months. He also seems to doubt that they are ever congenital, and as I had one case in which I was able to demonstrate that the child not only had adenoids, but that they were almost certainly congenital. I thought that probably Dr. Chappell and others of your readers might like to know of such a case and concluded to report it. On February 28, 1899, Mrs. G. S., age 24, healthy and strong, was confined of a son, a lusty fellow and weighing nearly nine pounds, and seemingly all right. On my visit the next day the mother told me that she believed the baby was going to be a snorer; that he seemed to have some trouble with his nose.

I examined him superficially and not finding anything marked, and, thinking that it was some temporary trouble, and probably somewhat exaggerated in the telling, I paid no further attention to it.

On March 11 she sent for me and said that something would have to be done for the baby, as he snored so dreadfully that she was afraid to go to sleep for fear he would strangle, and also could not nurse and breathe at the same time; would take a pull or two and would have to let go to get his breath. Otherwise he was all right.

From the description I immediately thought of adenoids, but thought it hardly possible in one so young. If such was the case, what could I do? How could I remove it? In looking over my instruments, I took one of Professor Myles' ring curettes, large size and flexible shaft, and bent it into the shape I thought a baby's naso-pharynx would be, and, taking some chloroform, went up to the house.

I watched the baby nurse, and from the general appearance, etc., I concluded that the trouble was adenoids, but to be sure examined the nose through a small ear speculum and found the nose perfectly free. I then examined the chest carefully, both front and back, to assure myself that it was not due to trouble below the throat. Having, in my own mind, pretty thoroughly cornered the trouble down to adenoids, I suggested to the mother that she let me give the baby a little chloroform and see if I could get my little finger up behind the palate, and then I could be sure. She consented, and after considerable trouble, I was sure I could feel a small growth. I took the Myles' curette previously mentioned and introduced it up behind the palate and then could feel the growth. I reached up as far as possible and brought the curette backward and downward in the usual way and was much gratified to get a piece of adenoid tissue, about three-eighths of an inch wide by one-fourth inch deep. I introduced it again, but on account of the blood, did not find any more. The baby nursed within two hours after the operation, and has had no trouble with nursing or breathing from that time to the present.

It struck me at the time that I did not remember anything in literature of a case so young, and intended reporting it, but outside of our local medical societies did not do so, but, seeing Dr. Chappell's paper, I thought that this case nearly proved that adenoids could be congenital. If this report is of any use to you in The Laryngoscope, you may print it. Most respectfully yours,

O. Stewart, M. D.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, January 22, 1902.

EMIL MAYER, M. D., Chairman.

An Unusual Type of Stammering.

Dr. W. K. Simpson presented a young man showing an unusual type of stammering. His health was excellent, and there was no history bearing on the case except that since early childhood he had been unable to speak except with difficulty, and that this had grown very much worse in the last few weeks. On attempting to speak he would place his hand over the mouth and apparently yawn.

Fibroma of the Pharyngeal Vault.

Dr. Francis J. Quinlan presented a case of fibroma of the pharyngeal vault, occurring in a young boy. On the introduction of the forceps an alarming hemorrhage occurred, and further examination showed an enormous growth, which was very hard, nodular and vascular. There was a history of long-standing nasal obstruction.

Syphilitic Destruction of the Maxillary Bone.

Dr. Quinlan also presented a case showing an enormous destruction of the maxillary bone by tertiary syphilis. This woman had been in the City Hospital and was treated for gumatous ulceration of alveolar process of upper jaw. To-day the antrum and nares are visible through the ledge of tissue that has followed the slough.

Dr. E. Mayer said that a case of fibroma of the nasopharynx had presented at his clinic two days previously, and the diagnosis had been made by a rhinoscopic examination. The growth, which was about the size of a bird's egg, was easily removed with the snare. Malignant disease was not usually found in the very young, and this should be remembered in connection with the diagnosis.

Ulceration of the Mouth due to the Fusiform Bacillus.

Dr. A. B. Duel presented a young man who had come to the hospital five weeks ago with the idea of having the septum straightened. Attention was directed to an ulceration in the corner of the mouth, and another dirty gray ulceration on the left tonsil. There was no history of syphilis, but the conclusion was reached that it was a tertiary syphiltic lesion. The man was put upon large doses of iodide, but he did not improve. It had then occurred to him that this ulceration might be due to the fusiform bacilli of this form. Peroxide of hydrogen was then used locally, and the case was rapidly improving.

Dr. C. G. Coakley said that he had recently met with one of these cases. There was no history of syphilis, and the case improved very rapidly.

Correction of Saddleback Nose by Subcutaneous Injection of Paraffin.

Dr. Harmon Smith presented three cases to illustrate the effect of subcutaneous injections of paraffin for the correction of nasal deformities. The speaker said that the use of paraffin for the correction of nasal deformities had been tried by Gersumy, of Vienna, in 1900. He had met with only two reports of such cases in this country. Dr. Smith said that he had begun his work in this field by experiments on the cadaver, having raised the temperature of the tissues to the normal temperature of the human body. It was found that the paraffin spread itself out over the nose, forming a perfect cast of the nasal bones beneath. An experiment upon a rabbit showed that the paraffin was inert even in the peritoneal cavity, and no reaction resulted. There was a tendency towards encapsulation on the part of nasal tissues. In his clinic work the method adopted had been to inject five minims of a four per cent solution of cocaine prior to the injection of the paraffin. A paraffin having a melting point of 110° F. was used. After sterilization it was again melted and the bubbles of air allowed to escape, and then an aspirating syringe with a large needle was filled with the paraffin, and submerged in hot sterile water until ready to make the injection. The point of the needle was carried into the tissues well beyond the point of greatest deformity. It was found that the paraffin remained plastic for about half a minute, and during this time could be molded. The results in

the three cases presented, while not making a perfect nose, were nevertheless sufficiently good to encourage one to pursue this work.

Dr. W. F. Chappell said that hitherto he had been greatly disappointed with the results he had obtained in such cases from other methods of treatment, and he could confirm what had been said about the very marked improvement resulting from the injection of the paraffin. He had himself used it in one private patient with satisfactory result.

Successful Operation on a Unilateral Isolated Empyema of the Sphenoidal Sinus.

Dr. Jonathan Wright said that about six weeks ago a patient had come to him with severe boring pain in the head. This was followed by delirium. With the finger in the nasopharynx and the patient under ether he had plunged into the sphenoidal sinus and evacuated stinking pus. With an instrument devised by Dr. Nichols, he had removed the turbinates. The delirium had continued for two or three weeks after this operation. An exploratory operation through the frontal sinus anterior and posterior ethmodial cells was made because of this, but no more pus was discovered. The man was doing well now, although the delirium lasted two weeks after operation. The delirium was probably due to an inflammation of the meninges. The patient, in describing the pain in the head, said that it originated in the nose, but the accompanying gesture indicated a pain extending from the parietal region down to the nose. On first coming under observation there had been a foul smell from the nose. Dr. Wright said that in doing this operation for opening the sphenoidal sinus it was very important to make careful measurements, for, it should be remembered that the anterior wall of the sphenoidal sinus was exactly three inches from the front of the nose, and the posterior wall three and a half inches from this point.

Dr. Z. I. Leonard said that last August he had seen at the New York Eye and Ear Infirmary a woman of 65 years who gave a history of great pain in the upper and back part of the head. Examination showed the left nostril to be filled with a material resembling putty. It could only be dislodged by using the curette. Microscopical examination of this material showed it to be composed of detritus and pus cells. The sphenoidal sinus

was found to be the one involved. Its anterior portion was broken down and the sinus washed out, and the patient recovered.

Dr. J. W. Gleitsmann said that undoubtedly these sphenoidal cases were quite rare, and Dr. Wright was to be congratulated on his success in operating upon this sinus. In a former discussion he had contended that the sinus was usually 3½ inches from the front of the nose, and he had had one case in which it was 3¾ inches distant from this point. When the anterior wall was intact some force must be used. Without due care it was easy to break into the cranial cavity.

Intranasal Tumor.

Dr. E. Mayer presented a man who had come to him four weeks previously with an enormous intranasal growth, which was diagnosticated as a myxosarcoma. The whole roof of the superior-maxilla was absorbed and the nasal bones on one side. He had done first a tracheotomy, packed the posterior nares and had then split the lip and laid it over on the cheek, thus gaining access to the growth. The latter, after removal, weighed 117 grm. Microscopical examination showed it to be an adenoma of the papilliform variety. The hemorrhage was kept thoroughly under control. The patient had had ordinary polypi for twenty-five years, and within the last year and a half the tumor had grown rapidly.

Dr. Wright said that from the history of the case he would say that there was not the slightest resemblance to papilloma of the nose, and a glance through the microscope made him feel quite positive that it was an adenoma or an adenosarcoma.

Dr. Simpson said that he had seen the patient before the operation, and had been impressed with the fact that the hard palate bulged markedly into the mouth. Since the removal of the growth the hard palate had receded and had become flat.

A Case of Bilateral Frontal Sinusitis.

Dr. Francis J. Quinlan presented this case. The man had suffered excruciating pain, and was almost desperate for the past five or six years at times. At the operation the sinuses were found to be very large, and the diseased tissues appeared to be ranged in layers. In this, as in other recent cases, he had introduced no gauze. There was very little bleeding, and ever since the operation the man has been comfortable, and is gaining flesh.

His vision had likewise been clearer than it has been for four or five years.

The last case is one of epithertum of tongue and floor of mouth, where Dumais' solution has been injected daily in the floor of the mouth with marked improvement in the appearance of the growth and the general condition of patient. This patient was seen by Section six months ago. This method of submucous injection has been practiced by me for the past three years in these inoperable cancers.

Tracheal Tumor Removed Per Vias Naturales.

Dr. J. W. Gleitsmann presented the tumor and the patient from whom it had been removed. Microscopical examination showed the tumor to be a sarcoma. The patient was 52 years of age, and had not been sick previously. He had been first seen on December 19, 1901. For four months previously he had had hoarseness and some difficulty in breathing for one month. Examination showed a tumor below the vocal cords, firmly adherent to the anterior wall of the trachea. The tumor was successfully removed through the natural passages with an extraordinary long curve of Schech's galvano cautery snare and the speaker's iridoplatinum wire. The operation was not followed by any reaction. It was reassuring to know that a tumor situated at this depth could be removed in toto by intralaryngeal methods.

Dr. Fridenberg said that he had had happened to be in his wards at the time of Dr. Gleitmann's examination and operation, and had been surprised at the skill with which the snare had been applied and also at the slowness with which the tumor was removed. There was no hemorrhage, and no undue cauterization.

A Case of Intracheal Colloid Struma—Operation—Recovery.

Dr. Clement F. Theisen, of Albany, N. Y., reported this case, which had been successfully operated upon. He commented upon the great rarity of this form of intratracheal growth, there being only nine on record. The patient was a woman of 32, who had enjoyed good health previously, and who had borne two healthy children. He had seen her for the first time in November, 1901, and found her pregnant and suffering greatly from dyspnea. There was a goitre of moderate size, and examination showed an inspiratory thrill, which seemed to be pathognomonic of high tracheal

stenosis. Laryngoscopic examination showed a tumor attached to the posterior and left lateral walls of the trachea. It was seen during deep inspiration. Her condition growing worse, the operation had been done on November 16, an incision being made from the thyroid cartilage nearly to the episternal notch. In cutting into the trachea a small incision was accidentally made into the tumor, which caused a troublesome hemorrhage. This was finally checked by the use of a sterile solution of adrenalin chloride. The tumor was found to be a part of the tracheal wall, and as much as possible of the growth was removed, the adrenalin being used freely because of the troublesome bleeding. The patient's condition was satisfactory for three days after operation, but on the fourth day she developed a double pneumonia, and for nearly two weeks the condition of the heart was very bad, and strychnia and nitroglycerine were administered frequently and in large doses. She was discharged from the hospital in excellent condition on the twenty-ninth day after operation, still wearing the tracheotomy tube. Dr. George Blumer examined the fragments of the growth, and found it to be made up of thyroid tissue containing a large quantity of colloid matter. The histological diagnosis was colloid struma. There were two theories as to the origin of this form of tumor. One was the embryonic theory, and this supposed that a lobule had remained in the trachea since the fetal life and developed during adult life. Another theory was that there was a direct extension of an enlarged thyroid gland, but in such cases the fetal gland must be united with the perichondrium of the cartilage and the interstitial membranes. In almost all of the reported cases the location of the growth had been characteristic, and they had been described early in life. The author's case was the second only in which the struma was confined to the trachea, and the only one occurring during pregnancy. It was probable that the pregnancy had had a great deal to do with the rapid increase in the size of the growth. The prognosis was, on the whole, favorable. When the growth was large enough to seriously interfere with respiration, a laryngo-tracheotomy should be done as soon as possible.

Dr. Theisen said that he had referred merely to the cases of intratracheal struma in which it could be proved that there was a connection between the goitre externally and the struma internally. In the majority of the cases to which he had referred this had

existed. The cases quoted by Dr. Douglas were not entirely analogous.

Voice Production and Its Pathological Obstructions.

Dr. Joseph Kenefick was the author of this paper. He said that it was not uncommon to find a student, after years of study and expense, fail in securing a good voice culture because of a long-standing obstruction in the upper air passages. Tone production might be considered under four heads, viz.: (1) Respiration; (2) phonation; (3) resonance, and (4) innervation or the central influences which control all the rest. While it was true that obstructions in the upper air passages might exist for a long time with affecting the laryngeal structures, they were usually the forerunner of pathological changes in the larynx. Misuse or overuse of the voice was likely to result in paresis of the vocal bands, or to the development of singers' nodules. Hypertrophy of the lingual tonsil was a frequent and grave obstacle to the culture of the voice. It might be complicated by the presence of varix. It belonged to the lymphoid diathesis, and was often associated with constipation and a general lack of tone of the system. The proper placing of tone was most important and difficult, and only came to most singers after long practice. Hypertrophy of the faucial tonsil was one of the most common and prominent of the pathological conditions interfering with proper resonance, and yet some would have us believe that the removal of the enlarged tonsils injures the voice. The turbinal enlargements and their effects were not so generally recognized. Patency of the nose was absolutely necessary for proper tone placing. The author's conclusions were: (1) That the profession of teaching voice culture should be confined to those having proper preparation for their work; (2) that students should begin this work much earlier than customary, and (3) that before taking up voice cultivation the candidate should have the vocal apparatus thoroughly examined.

Dr. Thomas J. Harris said that almost anyone who had removed many tonsils must have met with cases in which the voice had been improved by the extirpation of the tonsils. Personally, he had never seen any ill effects to the voice from such removal, yet a London laryngologist had just reported two or three cases in his own experience in which the voice had been injured in this way.

Dr. Gleitsmann said that he had been compelled to decide this question in the case of a singer of international reputation. This man suffered from occasional enlargement of the tonsils. He had advised slitting the tonsil on these occasions, and would have been glad to remove them, but the singer was actively engaged in his professional work and absolutely refused to have it done because a well known authority in Europe had assured him that the removal of the tonsils would injure his voice. Personally, he would be cautious about expressing an opinion on this point in the case of a tenor or a high soprano. Even a medium-sized linguial hypertrophy exerted a bad effect upon the voice.

Dr. T. Passmore Berens said that if the voice of a young singer were changed by the removal of the tonsil this change could be offset by proper training. It was quite different, however, in the case of singers in more advanced life. He would warn against the removal en masse of the tonsils or adenoids in singers well advanced in their career, and also well on in life. He was glad that renewed attention had been directed to the lingual tonsil, for, we were prone to look over or overlook the lingual tonsil, and examine the vocal cords.

Dr. N. L. Wilson, of Elizabeth, said that his experience was that the voice was never injured by the removal of the tonsils. The voice in cases of enlarged tonsils was usually faulty, and after the removal of the tonsils it might be necessary to train the voice to a different mode of placing the tones.

Dr. Mayer said it was remarkable how many persons had a good singing voice despite the presence of a great deal of nasal obstruction. He had in mind two such cases. In one of them there was a large exostosis and enchondrosis springing from the cartilaginous and bony septum, while in the other there was complete stoppage of the affected side from a bony plate, and yet both sang well and were not aware of the obstruction. After operation the ease and comfort they experienced was promptly noticed.

AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

SEVENTH ANNUAL MEETING.

Held in New York, May 23, 24, and 25, 1901.

(*Proceedings continued from page 54.*)

Tympanic Vertigo Due to Obstruction of the Eustachian Tube.

Dr. William P. Brandegee, of New York City, read this paper. He said that vertigo could be divided into four varieties, viz.: (1) Vertigo incident to diseases of the heart; (2) vertigo complicating diseases of the stomach and intestinal tract; (3) vertigo associated with diseases of the eye, and (4) vertigo dependent upon diseases of the ear. Vertigo in connection with ear disease is almost always associated with tinnitus. When there was only moderate deafness, vertigo was not usually complained of. The lower tone limit was nearly always raised. Vertigo due to aural disorder was either subjective or objective, and the vertigo varied from slight giddiness to an inability to stand up or walk. The vertigo was usually referred to the side on which the lesion exists. The first effort should be to strike at the root of the disorder by restoring the lumen of the Eustachian tube. The most rapid and effective method of accomplishing this, in his opinion, was by electrolysis. By the aid of the current from the negative pole the bougie could be readily passed, whereas with the ordinary bougie undue force would be required. The method caused a minimum amount of pain and produced the minimum amount of trauma, and allowed of the utmost delicacy of manipulation. The smallest bougie with a tip 1 mm. in diameter was preferred for the first treatment, and a current of from 25 to 40 volts, and from two to five milliamperes should be used. Electrolysis, and not cauterization, was desired. The negative pole should be attached to the bougie, and the positive electrode held in the hand. Before passing the bougie the mouth of the Eustachian tube should be thoroughly anesthetized with cocain. To be effective the tip of the bougie should pass

within the tympanic cavity, and inflation should not be done for forty-eight hours.

Toxic Rhinitis.

Dr. Charles P. Grayson, of Philadelphia, was the author of this paper. He expressed the belief that nine-tenths of the cases of rhinitis were the result, not of exposure to cold, as often stated, but rather to a toxaemia—in other words, that rarely, if ever, could it be said that a person whose metabolic processes are normal can "take cold." He was inclined to believe that wet dinners rather than wet feet, were responsible for many cases of acute rhinitis. The people who are the greatest sufferers from periodical rhinitis are those who are indulgent at the table, or who will not take that amount of exercise which might make amends for errors at the table. The local treatment of such attacks must be but palliative, and is of small moment. For these reasons he strongly condemned the now very prevalent custom of prescribing "rhinitis" tablets, composed of opium, belladonna and aconite. It was far better to prescribe horseback or other exercise, followed by a cool bath and a rub down than the usual coddling treatment for colds.

Immunization in Hay Fever.—A Report of Two Years' Experience.

Dr. H. Holbrook Curtis, of New York City, read this paper, which was a supplementary report to what he had presented on this subject before the last meeting of the American Medical Association. He had begun his experiments in this field by administering hypodermically a sterilized infusion of roses. After two weeks of this treatment the lady had been able to stand the effect of the odor of roses. He had then treated this neurotic individual by similar preparations of violets and lilies, and with equally good result. He had next noted that other flowers than these could be included in a bouquet without causing the distress formerly experienced. He had then determined to supply this therapeutic principle to hay fever, and, as a result, Fraser & Co., apothecaries of New York City, had placed on the market in August, 1900, a preparation of the fluid extract of ragweed with aromatics which was sold under the name of "Liquor ambrosio." With each bottle a printed blank had been sent out with a request for the co-operation of those using the remedy in systematically studying it. At the end of four weeks, after sending it out, reports had been re-

ceived of 18 complete recoveries, of four cases showing considerable improvement, and of 12 cases in which the result had been negative. About 3,000 bottles had been sent out. Many letters were read to show what had been the results, both favorable and otherwise. After studying these reports, and considering his own experience with about 100 cases, he had come to the conclusion that in those cases of hay fever due entirely to the ragweed immunization could be secured in about 60 per cent of the cases, but that in cases of mixed infection, with a preponderance of asthmatic symptoms, a nasal spray of suprarenal extract, or of adrenalin should be employed.

Dr. H. L. Wagner said that of late the studies of immunization had become most interesting. Having heard of Dr. Curtis' experiments, he had undertaken the analysis of various extracts of flowers with the object of ascertaining what effect they might have on the serum of the blood. It seemed that the so-called glycosides of the vegetable kingdom form certain chemical combinations with the albuminoid products, then produce immunization of the blood. He did not refer to the serum albumin or the serum globulin of the blood. He fully agreed with Dr. Grayson that cases of toxic rhinitis often result from the formation of certain acid, produced by fermentation. Just as some individuals were peculiarly sensitive to such toxins in the blood, and exhibited this idiosyncrasy by the development of rhinitis, so persons might be peculiarly sensitive to the glyosides of flowers. He intended to continue his study of this subject, and hoped to report upon it in a year or two. He had had patients develop symptoms of hay fever after riding behind a horse, whether or not the animal had been well groomed. The peculiar smell of the horse is due to hippuric acid, and hence it had occurred to him to try injections of horse urine. Instead of this, however, he had decided, for various reasons, to employ pure hippuric acid. He had used a solution of hippuric acid of the strength of 3 to 3.5 per cent. One or two cubic centimetres were injected every third or fourth day. One of the individuals thus experimented on, after eight or ten weeks of the treatment, was able to drive without developing the symptoms formerly observed. The speaker said it had occurred to him that this result might possibly have been dependent upon suggestion, yet it was not inconceivable that the glycosides of flowers might combine with the side chains of substances in the blood. He thought the subject was worthy of thoughtful and extended study.

Dr. E. L. Vansant, of Philadelphia, said that this subject of immunization was certainly most fascinating. The use of cow pox against small-pox and of antitoxin against diphtheria were notable examples of achievements in this field. Hay fever was certainly more or less of a neurosis, and he was inclined to think that the idea of being made immune to a disease from which one had been suffering from year to year, would have a profound effect on the nervous system, and this would account for some of the beneficial results reported. The nearest approach to the action of a remedy similar to that recommended by Dr. Curtis would be that of quinine in malarial fever. That had a certain power to make one immune to malarial infection, but there the infection was a specific one, and the action of quinine appeared to be a specific one upon the malarial plasmodium in the blood. He was of the opinion that numerous examinations of the blood in cases of hay fever might bring out valuable information.

Dr. Price Brown said that Dr. Curtis deserved the thanks of the members for having so persistently followed out one line of investigation. One point in that investigation, however, had been left out, even so far as the title of the paper itself—"hay fever." Apparently he had taken no cognizance of the effect of hay. Dr. Brown said that he had known men to develop attacks of hay fever after having been engaged in throwing pure timothy hay. Mention was made of a man who had sneezed more than one hundred times simply because he had thrown out one load of hay.

Dr. F. H. Koyle, of Hornellsville, N. Y., said that he had had one case of a woman who had never suffered from symptoms of hay fever except when riding behind a horse.

Dr. L. F. Page said that the reported results from treatment with the tincture of ragweed are certainly encouraging. He had several patients who had been unpleasantly affected by driving behind a horse, and he had come to the conclusion that this was due to the hair of the animal having become saturated with the pollen of various plants, rather than from any peculiar emanation from the animal. For several years he had secured good results in the treatment of hay fever by restoring proper drainage, and as nearly as possible, normal conditions of the mucous membrane, together with proper attention to the eliminating action of the skin and bowels. Various abnormalities of the nose by causing pres-

sure irritation in persons predisposed to hay fever was often responsible for the occurrence of this disorder. He knew of several cases that had been entirely relieved years after all of the abnormalities of the nasal cavities had been removed, the disturbed nerve centers had had time to regain normal resistance.

Dr. N. L. Wilson said that from the letters read by Dr. Curtis, he had been persuaded to give the remedy another trial. He had used it in eight cases last year, and the only results noted had been the production of nausea and an increase of the discomfort of the patient. He had been disposed to discard this treatment, not only because of these clinical results, but because one of his patients always had an attack after driving behind a horse, and another patient developed hay fever after riding a bicycle on a dusty road. Surely Dr. Curtis could not be expected to add the fluid extract of dust to his preparation.

Dr. C. F. McGahan said that his summer practice for many years had been in the home of hay fever; in later years they had had light attacks, usually after the prevailing wind had been from the southwest. Several years ago when assistant to Dr. Geddings, five thousand letters had been sent out to the laity with the idea of securing information about hay fever, but the result was of but little value. In his locality these hay fever patients do not drive, except after a rain, for they always develop symptoms of hay fever. He also knew of a gentleman who had a stable about as clean as one's kitchen, and whose horses were beautifully groomed, and yet he also had hay fever after driving behind the horse in the hay fever season. It used to be said that the ragweed does not grow in the mountains, and hence persons are exempt from hay fever there, but this was not true because the ragweed had been found in these regions. Even the planting of corn had been deprecated by some hay fever sufferers, lest it might ruin this region as a haven for sufferers from this disease.

Dr. J. A. Stucky, of Lexington, Ky., said that he had tried Dr. Curtis' preparation, and had forwarded to him the results. In three cases the patients thought they were benefited, but they remarked that the ragweed was less virulent last season. In eight cases he had been unable to see any appreciable result, while he had obtained considerable relief from the use of a solution of suprarenal extract and chlorentone, one part with seven parts of an alkaline solution, either Dobell's or Seiler's solution.

Dr. T. J. Harris said that only that very day he had been talking with a patient who always had a rose cold on May 20, which disappeared on July 3d. He had given this woman no treatment directed to the nose, but had endeavored to correct the high acidity of the urine and improve the condition of her stomach. Under such treatment at one time, she had gone the whole year without any rose cold. The latter was now five days overdue, so that it was possible that the treatment mentioned would again secure for her immunity this year.

Dr. E. E. Holt said that a classmate of his had been unable to ride behind a horse at any time in the year, although he had tried various methods of grooming and cleaning the horse.

Dr. Curtis, in closing, said that in a previous communication he had cited a case in which a man had been unable to live in London since twelve years of age. He could not pass a horse in the street without having a dreadful coryza. Many specialists in London had experimented with him. It had been found that he could ride behind a horse that had been vaselined, and would not develop any symptoms until after about one hour. Persons who are sensitive to the emanations from the horse develop the symptoms when riding in a sleigh, thus eliminating the question of dust. Some persons are sensitive to emanations from elephants, cats and mice. A rose cold occurs even when there are no roses about, and is the result of an erectile tumefaction. In the later stages a true oedema supervened. He believed the most important thing in the treatment of hay fever was the elimination of uric acid, and that this was proved by the effect of low diet. He knew several opera singers whose vocal cords were so sensitive to the emanations that if exposed to such emanations in a room they would be unable to sing. Enough encouragement had been found in the reports received by Fraser & Company to lead them to manufacture 50,000 bottles for this season's consumption. He was of the opinion that the fluid extract was the more efficient preparation.

Management of Acute Otitis Media.

Dr. F. L. Jack, of Boston, Mass., read this paper. He said that the object of treatment in the first stage was to keep open the tube. In children, the Pollitzer bag should be used; in adults, the Eustachian catheter. If the inflation were done too energetical-

ly the inflammation would be increased. The pain was best relieved by dry heat; poultices could not be too strongly condemned. Of instillations, oily mixtures were the least objectionable. In the second stage there were a collection of fluid in the middle ear and a bulging of the drum membrane. A free incision of the drum was of the greatest importance, and not only gave prompt relief, but tended to prevent mastoid complications. Many cases of catarrhal deafness were made worse by a neglect to free the middle ear of fluid. The opening should be made at the point of greatest bulging, and the incision should be free. He thought children suffered more from giving a general anesthetic than from incision without it; in adults, ether, chloroform or even nitrous oxide might be used. The ear should be inflated at intervals until hearing was restored.

Early Treatment of Mastoiditis.—By Dr. Charles W. Richardson, Washington, D. C.

This paper appeared in extenso in THE LARYNGOSCOPE, Vol. IX., No. 1, p. 57.

DISCUSSION.

Dr. Edward B. Dench said that he was in almost perfect accord with what had been said by the readers of these papers. He was very glad that Dr. Jack approved of inflation in the very early stages. He was certain that in a number of cases he had seen an acute inflammatory process within the tympanum aborted by the gentle use of the Eustachian catheter to restore the balance, as it were, of the drum membrane. In this congestive stage the proper use of the catheter accomplishes very much what a supporting bandage does in the inflamed limb, i. e., it restores the circulation to the normal condition. If the infection were not too virulent, the disease might not go beyond the stage of congestion. He preferred the catheter to the Pollitzer bag, except in very young children, where it was practically impossible to use the catheter. He had had no experience with adrenalin, but he knew that the application of a solution of nitrate of silver, of a strength varying from ten to forty grains to the ounce, is efficacious in many of these cases. Dry heat was also of great value; the best way to spoil a good ear was to poultice it. With reference to the use of oils, he was inclined to think that oils do harm by furnishing an excellent nidus for the development of the aspergillus. In the external canal the absence

of light, with the presence of moisture and heat, added to the other favorable conditions for the development of such an organism. The result of the instillation of oils was the development of moulds and streptococci. Subsequently it might become necessary to incise the membrane, and under such circumstances it would be found exceedingly difficult to sterilize the canal. As to the advisability of incising the drum membrane when there was no bulging, the speaker said that he believed that sometimes the incision into the drum should be made even when there was no effused fluid. This was particularly true of the cases starting in with acute pain. His experience with wick drains had not been favorable. His plan was to use irrigation immediately after the incision. Theoretically sterile water was all right, but practically it seemed to him better to use a solution which was mildly antiseptic. Where numerous streptococci were present it seemed especially desriable to diminish the virulence of the germs in the canal by such use of an antiseptic. He preferred bichloride solution, 1 to 3,000 or 5,000. He believed in early incision, rest in bed, and the use of cold as a routine treatment, but by this he meant that the case should be under a surgeon's personal observation from its inception. If there were any evidence of mastoid involvement he was strongly of the opinion that in most cases it was a little dangerous to make use of cold, because of the tendency of such an application to mask the symptoms. He could not agree with Dr. Richardson that the cold should be left on as long as improvement was observed, for, he believed, if cold did not abort an inflammatory process within forty-eight hours it would not act as an abortive measure, though it might relieve the symptoms. If the coil were left on longer the inflammatory process might be arrested in the superficial cells, and yet be progressing in the deeper cells,and such treatment might then result in intracranial involvement. Two cases had made him hesitate to use cold. One was a man who had come into the hospital with a pneumonia, and for this reason the mastoid operation had been postponed and cold used. He had been brought to the hospital about six weeks later in coma and with choked disk. He had been prompty operated upon, and a brain abscess evacuated, and the man had recovered. In the case of a young girl, cold had been left on for three or four days, and all of the symptoms had disappeared. The boy had re-

turned to the hospital about two months later with an abscess in the posterior fossa, and a very extensive destruction of the mastoid process. Infection had taken place through the external surface of the skull, and an abscess had developed between the dura and the bone as a result of that absorption. He believed that the otologist in doubtful cases was just as much warranted in doing an exploratory operation on the mastoid as the general surgeon was justified in doing an exploratory operation in other regions. Such a procedure secures drainage posteriorly, diminishes the risk of serious impairment of hearing, saves the patient from intracranial complications, and shortens the period of convalescence.

Dr. J. F. McKernon, of New York City, said that two years ago he had read a paper before this society in which he had advocated cold in certain stages of acute mastoiditis, yet the impression had gone forth that he had advised it in all stages. When a case came under observation with beginning tenderness of the mastoid process he advocated free incision of the drum membrane, absolute rest in bed, fluid diet, free purgation and the application of the Leiter coil over the mastoid for twenty-four hours. If, after this time there was marked tenderness the coil should be removed and the case watched for twenty-four or forty-eight hours. If, on the other hand, the tenderness had diminished, the coil should be left off and the case watched. There was no use, of course, in applying the ice coil if pus were already present. In acute mastoiditis with mastoid tenderness, and a condition of congestion only, the application of cold would, in the large majority of cases, abort the process. Where the predominating infection was streptococcal, he was very skeptical as to any measure proving abortive. The discharge from the external meatus should be examined bacteriologically in all of these cases. He thought the time would come when otologists would practice the exploratory mastoid operation advocated by Dr. Dench. In an uncomplicated mastoiditis it was certainly a perfectly safe operation, and he was glad that this procedure had been so earnestly advocated.

Dr. T. P. Berens said that the treatment of inflammation of the middle ear should be along the lines of free drainage and cleanliness. Irrigation should be with solutions as hot as can be borne. The Eustachian tube should be opened, and this pro-

cedure could be most easily accomplished by the use of adrenalin through the catheter. He believed that heat accomplished much in the early stages of this affection. Confinement to bed was an important factor in cutting short the attack. The nose and pharynx should be kept clean, and internal medication should be resorted to. In the later stages, where there was considerable formation of pus, he found peroxide of hydrogen useful, but it should be added to the hot irrigation and dry cleansing. The effects of extreme cold and extreme heat were practically the same, and as ice masks the symptoms where heat does not, he preferred heat. Many acute cases in which one expects to find pus in the mastoid antrum yield to the treatment outlined together with the use of hot poultices. This treatment should be persisted in for forty-eight hours, if need be, so long as the patient is comparatively comfortable and there are no urgent symptoms. He had recently had a case completely recover, the mastoid symptoms disappearing after five days of careful nursing. In the removal of the jugular vein one often finds a thin broad sterno-mastoid muscle. By prolonging the incision and splitting this muscle the vein could be more easily laid bare. It was customary to split the lateral sinus and pack it with gauze, his own practice was to split the sinus the whole length of the diseased area, and a little beyond, and then enucleate the split edges, leaving practically an open wound which could be easily dressed, and which could not possibly contain any pus.

Dr. T. R. Chambers exhibited the ear douche which he employs in connection with water having a temperature of 125° F. He believes that many cases of impending mastoiditis have been cured by this treatment which would never have been cured by any of the methods of treatment already described. He said that he had read a paper on this subject about one year ago, and as a result, had received some inquiries regarding this douche. The instrument is made by the Davidson Rubber Company of Boston. It may be sterilized, taken apart, will fit any ear, and is indestructible. With it water at a temperature of 125° F. may be used without burning the fingers holding the instrument. It was his rule, in every case, to make a culture from the discharge as it exudes from the middle ear.

Dr. E. E. Holt said that in the discussion of this subject many years ago, Dr. Agnew had laid stress upon the importance

of having the patient recline at an angle of 45°. This was a point of some importance, as many patients are comfortable in that position, but suffer a good deal if lying flat and on the back. He had long ago learned from experience that many cases of earache could be relieved by introducing into the auditory canal a piece of cotton, moistened with spirits of camphor, and having in its centre some red pepper. He felt sure that what had been said in previous meetings of specialists about the use of cold in inflammation of the middle ear, had done much harm by encouraging general practitioners to use it indiscriminately, and without regard to the special stage in which it was alone appropriate. It was often difficult to determine whether a mastoiditis was superficial or deep.

Dr. Price Brown cited a case in which acute pain in the middle ear had developed in a lady after exposure to cold. He had applied dry heat, and within thirty-six hours she had developed mastoid tenderness. Her temperature at that time had been 101° F. He had then made a very free incision into the drum, evacuating seropurulent material. At the same time he had applied a fly blister. He believed in dry treatment, and hence he had not resorted to irrigation, fearing that it would carry infectious matter into the deeper parts. The following day the temperaure had been 99°, the discharge had lasted about five days, and the further recovery had been uneventful.

Dr. Sargent F. Snow said he was glad to hear Dr. Richardson use the expression, "the persistent application of cold as long as it seems to be doing good," for, experience had shown him that a little latitude could be given to the forty-eight hour rule, particularly if the case were holding its own. The operation for opening the mastoid was undoubtedly one which was frequently necessary, and of great benefit, but nature, in her efforts to ward off extension of inflammation throws out a protecting wall. Now. if one opens and clears out a mastoid, which is the seat of only slight inflammation and softening, he is very liable to break down this protecting wall, favoring infection of adjacent parts. He believed one should secure free drainage of the mastoid. If on opening the mastoid, only slight softening were found, it seemed to him sufficient to maintain free drainage, and not disturb the walls. In many cases free incision of the ear drum and of the posterior superior wall was sufficient to give all the drainage required. Some-

times the posterior superior would be found bulging again after the first incision. If this occurred, it should be again incised.

Dr. Wendell C. Phillips said that he understood Dr. Jack and Dr. Dench to advocate the use of the catheter in acute catarrh of the middle ear. The use of the catheter or inflation of any form in acute inflammatory processes of the middle ear was not unattended by danger. He would hesitate to do this in any cases in which there was an infective process going on in the nose or in the nasopharynx, because of the danger of carrying some of the infectious material into the Eustachian tube. He referred especially to grip cases. Whether the inflammation was catarrhal or suppurative in these cases, the less one had to do with the Eustachian orifice the better for the patient. He could imagine some cases of catarrhal inflammation where the treatment mentioned by these gentlemen would be safe. He had almost come to the conclusion that in acute inflammation of the mastoid cells, whether or not the ice coil were used, or poultices were used, little influence was exerted upon the process going on in the mastoid cells, and he had almost come to the conclusion that once a mastoid, always a mastoid, and that but little could be done in the way of prevention. We should strictly define the varieties of mastoid disease. There was one type which no treatment, seemed to him to reach effectively, namely, the grip cases in which streptococci are present. This was the result of his personal experience. On the other hand, if there were mastoid inflammation without these germs—in other words, a congestion or a catarrhal inflammation—the case might be influenced by treatment. Two symptoms and one condition seemed to him to mark the positiveness of the case, i. e., prolonged tenderness over the antrum, bulging of the attic and the presence of streptococci in the pus. The pus should be examined microscopically in every case. Theoretically, the ice coil was better than hot applications. Poultices had been both condemned and praised in this discussion. In actual practice it seemed to him that the hot poultice certainly had a very beneficial effect, though admittedly bad in theory. In any case, neither cold nor hot applications should be continued for any length of time. In the past six months in a rather large service he had taken off the ice coil at the end of twenty-four hours, and had not reapplied it for fear that the longer application would mask

the symptoms. Some physicians made it a routine practice to attempt to abort a mastoid case by the use of the ice coil, yet he would insist that there were many cases which were undoubtedly operative from the time they first came under observation. He could not see how a blister could be of benefit whatever in such cases.

Dr. J. F. McCaw said that his experience coincided entirely with that of Dr. Dench and Dr. Phillips. He believed that cold in these cases is entirely out of place. Mention was made of a case seen by him some time ago, where consent to operation had been withheld for the time, and the patient had been allowed up and around. He had finally come to the speaker's office with very little tenderness, but a free purulent discharge from the middle ear. Immediate interference had been advised, and a typical mastoid operation had been done the next morning. The mastoid cells were found converted into a carious mass, the wall of the sigmoid was completely carious and covered with pus, yet this patient had gone around the previous afternoon attending to his occupation of civil engineer. The case emphasized the treacherous nature of these cases.

Dr. H. L. Wagner said that in almost all cases there was a mixed infection. When there was at first a pneumococcus infection there would surely be a mixed infection in the course of a few days. If there was a pure pneumococcus infection, the prognosis was good; if the infection were mixed, and especially if streptococci were present, one should be guarded in the prognosis. This form of infection should be regarded as very serious, though he did not think that all of them really needed operation. We should not be satisfied with making an examination of the pus once only, but these examinations should be repeated from time to time, until satisfied with the improvement. Clinical intelligence should, however, be superior to the results of these important examinations.

Dr. R. C. Myles thought that progress was being made as to the importance of understanding the physics and chemistry of inflammation of the middle ear. Wherever free drainage occurred, an operation was rarely required. When pressure caused sloughing of bony as well as soft tissues, and led to necrosis, an operation would probably be required. He did not think quite enough attention was paid to the details of securing this drainage. For

instance, the exact method of making the incision to relieve the tension in the mastoid cells was not generally stated, though Dr. Dach had made an effort in this direction. The membrane appears on inspection rather peculiar when an incision is required, and one was apt to be misled as to the exact location and extent of the incision. In some of his cases he had gone so far as to excise a portion of the drain membrane; in others, he had made a triangular incision. He had never felt that he had made too free an incision—indeed, the more extensive the incision the better had been the after results, other things being equal.

Dr. Richardson, in closing, said that he had supposed in his paper that the case was under observation from the very beginning. One derived a certain amount of intuition in connection with any work in which one has a large experience. Some cases at once indicate to the physician that an operation is required, and, of course, such cases should not be treated by the application of ice. He had had this spring a gentleman with double otitis media and streptococcal infection. The left ear went on to resolution, under the application of ice. Five days afterward, and after having applied cold for forty-eight hours, he had done a mastoid operation on the right ear. About the same time he had seen a case in which there had been very little tenderness, and a body temperature of 99° F. There were numerous streptococci in the discharge. The next day he had operated upon both mastoids, and had found extensive disease with an epidural abscess on one side. These cases were narrated to emphasize the necessity for the use of individual judgment. He had not said anything about ice masking the symptoms, only that one must be extremely careful about observing the symptoms while using the ice. He had seen as bad cases of pneumococcal infection as of streptococcal infection.

Lithaemic Pharyngitis.

Dr. J. A. Stucky, of Lexington, Ky., read this paper. He said that uric acid excites inflammatory reaction in mucous membrane. The excessive elimination of uric acid and the inability of the organs to comply with this demand caused it to be deposited in other organs. The local manifestation of the diathesis might not be confined to the larynx, but might make its appearance in the nasal and gastro-intestinal tract. The attack causes primarily

no lesion. It might be ushered in suddenly by sensation of fullness in the throat, and increased by swallowing. There was a constant desire to swallow, and the throat had a rigid feeling, and was hot and dry. There was only slight elevation of temperature. The redness and swelling were more marked behind the posterior pillar of the fauces, the other portions of the throat being very slightly congested. The uvula was often rigid, swollen and oedematous. In most cases there was a pricking and itching, as if a foreign body were present. It was sometimes an immediate precursor of articular rheumatism. Overindulgence in eating and drinking was often as much the determining cause as exposure to cold. Local treatment was only of value because of its psychological effect. Marked relief was afforded by an initial cleansing out of the nose and throat by a hot alkaline solution. The drugs indicated were those which increase the alkalinity of the blood. The salicylates combined with minute doses of pilocarpin should be given, and repeated until a free action of the skin had been secured. Daily exercise with restricted diet would give the most favorable and lasting results.

Dr. Vansant said that a few years ago he had drawn attention to the effect of indulgence of strawberries in causing pharyngitis. Quite a number of people could not indulge in this fruit without suffering from pharyngitis, and more or less inflammation of the tonsils.

The Mechanical Treatment of Nasal Synechia with Demonstration of an Appliance.

Dr. F. H. Koyle, of Hornellsville, N. Y., presented a paper with this title. After briefly referring to the instrumental treatment of existing synechial he exhibited a splint, and the material from which it is made, viz.: the modeling composition used by dentists in taking impressions for plates. A block of this is immersed in hot water until soft, and is then removed to a previously warmed wet surface, where it is kneaded or rolled out to the desired thinness. While still soft a strip is cut off and shaped into a splint, the sharp edges are smoothed down with the fingers. It is absolutely aseptic, light, non-absorbable, and superior in every way to rubber tissue, spunk, ivory or celluloid. He had been led to use this material, others having been found unsatisfactory, because of the impossibility of using anything other than an easily

moulded concave-convex splint in certain septum cases where operation was refused. Some of his patients had worn this splint material for three weeks without annoyance or unpleasant consequences.

Dr. Price Brown said that rubber was just as aseptic as the composition presented. It was true it had an odor, but it could be left in any length of time, and being compressible, it retained its position better. He had now a case that had worn a rubber splint without discomfort for four weeks, and he would leave it in position for five weeks more. The material was readily manipulated, using only a file and knife. He had used the rubber for three years, and has been greatly pleased with it.

Dr. Koyle said that he often introduced this composition into the nose while warm and soft. The peculiar advantage of the material was that it could be molded after having been placed in position.

Report on an Interesting Case of Aneurism of the Internal Carotid Artery.

Dr. Walter B. Johnson, of Paterson, N. J., made this report. The patient was an Italian boy of five years, first seen in consultation on March 15, 1900. Ten days previously the child had an inflammation of the throat, and a swelling in the region of the left tonsil, associated with the usual symptoms of peritonsillar inflammation. Possibly traumatism might have been inflicted that afternoon by an Italian midwife attempting to rupture the swelling with her finger. That evening Dr. Banta had been called and found bleeding from the ear. During a subsequent examination the child struggled violently, and there was sudden gush of blood from the left ear. At this time Dr. Johnson had been called in consultation. There was a tense swelling below the ear, which seemed to be limited by the fossa of the neck. No pulsation or aneurismal bruit could be detected. There was a dusky red, nonpulsating tumor in the left tonsillar region. A diagnosis of dissecting aneurism had been made. When examined on March 31 the tympanic membrane of the left ear had a large perforation, and rather thick serous fluid escaped from the junction of the auditory canal and tympanum. When next seen the statement was made that during an attack of enteritis and fever, the tumor had suddenly increased, and the child had become comatose. Another

physician had expressed the opinion that the tonsillar swelling was a malignant growth. The general opinion of a number of surgeons who saw the case was that this swelling was not an aneurism. On June 13 tracheotomy had been done by Dr. Johnson, and two exploratory punctures of the tumor had been made, and the remaining part of the left tonsil removed. The tumor mass was examined by a pathologist, and the opinion expressed that it was not carcinomatous or tubercular. The patient improved after this, with the exception of two attacks of bronchitis. On September 7th the child had been almost exsanguinated by a sudden and severe hemorrhage from the nose. Death occurred on September 10 from a second hemorrhage. No autopsy was permitted. Ligation of the carotid had been considered the precious spring, but, owing to the general opinion of the consulting surgeons that it was not an aneurism, this operation had not been attempted. The intention had been to do this operation if the tumor bled on exploratory puncture, but it had not done so.

Subarachnoid Injection of Cocain as a General Anæsthetic For Operations on the Head. By Dr. Redmond W. Payne of San Francisco.

This paper appeared in full in THE LARYNGOSCOPE, Vol. XI, No. 2, p. 117.

Dr. Otto J. Stein, of Chicago, said that the difficulty of sterilizing cocain had always constituted an important obstacle to its successful use in subarachnoid injections. Dr. Harold N. Moyer had done away with all this difficulty by substituting eucain. This is readily sterilized by boiling, and, so far as he knew, had produced equally good anesthetic effects when used in 4 per cent solution.

Dr. Payne replied that eucain had not been found to possess the reliable anesthetic properties of cocain.

Papillomatous Growths of the Soft Palate. By Dr. Wm. F. Dudley, of Brooklyn.

This paper appeared in full in THE LARYNGOSCOPE, Vol. XI, No. 2, p. 128.

Variation in the Technique of Septum Operations. By Dr. Stephen H. Lutz of Brooklyn.

This paper appeared in full in THE LARYNGOSCOPE, Vol. XI, No. 2, p. 126.

Dr. C. W. Richardson commended the author for this practical suggestion.

Dr. T. R. Chambers said that he practiced the Gleason operation, and in that no breaking was required.

Multiple Cerebellar Abscess; Sigmoid Sinus Thrombosis.

Dr. J. E. Sheppard, of Brooklyn, N. Y., presented a cerebellum and dura showing a multiple cerebellar abscess and a sinus thrombosis. The specimen had been taken from a man, thirty-seven years of age, who had been admitted to the Brooklyn Hospital on April 19, 1901. About four months previously he had been hit in the frontal region with a pitch-fork. One month later he had begun to have pain in the right ear, and shortly afterward a discharge of pus from this ear. For about one month he had had headache, especially on the right side, and, according to the patient, he had had a swelling back of the ear. Examination showed hearing to be impaired; there was a moderate increase in the number of white blood cells; the temperature under the tongue was between 97° and 98° F., and in the rectum 99° F., the pulse ranged from 58° to 72°. At the operation the mastoid cells were found obliterated. On probing the sinus there was an escape of about half a drachm of pus containing streptococci. There had not been a single symptom of sinus disease. Three days later a trocar and canula had been plunged into the cerebellum, and had withdrawn two or three drachms of pus containing streptococci. This had resulted in temporary improvement. Two days afterward the patient died suddenly of respiratory failure. In the anterior part of the right half of the cerebellum were two abscesses, the anterior one having been opened. The right lateral sinus was entirely, and the longitudinal sinus partly obliterated by contained organized blood clot.

Simple Operations on the Inferior Turbinate in Place of Cauterization.

Dr. John F. Woodward, of Norfolk, Va., was the author of this paper. He used the cautery in the first stages of hypertrophy only. The complete removal of the inferior turbinate was seldom necessary. Our object should be to secure the greatest amount of air space with the least destruction of tissue. He makes use of scissors, having short cutting blades, one being serrated. He also has a snare which can be used with one hand. The parts are prepared for the operation by antiseptic washes, and the use of a solution of suprarenal extract.

Chronic Nasopharyngeal Bursitis.

Dr. C. Dunbar Roy, of Atlanta, Ga., read this paper. He expressed the conviction that adenoids were present in all chil-

dren, and that they are not the result of climate, but are greatly influenced in their growth by climate. The anatomy of the region was reviewed, and the statement made that anatomists were not agreed as to the existence of the pharyngeal tonsil. Those who dispute the existence of this bursa, he felt sure did so because of anatomical and not clinical study. He personally believed there were certain cases of nasopharyngeal catarrh which were dependent upon a pathological state of this bursa. He believed this bursa was only rarely present. The treatment that had succeeded best in his hands was the application of a solution of nitrate of silver, sixty grains to the ounce, applied directly to the surface affected, and then spraying with hot melted vaseline and orthoform.

Dr. C. G. Coakley, of New York City, said that he had seen cases similar to those reported in the paper, and he had always regarded them as the result of a peculiar arrangement of the lymphoid tissue in the nasopharynx. The formation of deep recesses was undoubted, and some of them extend down even to the periosteum of the bone. In the cases under discussion he thought there was a deep recess passing under a band of connective tissue. He had curetted such a case with temporary benefit only. The relapse had been found to be caused by a retention of secretion, and on the thorough removal of the secretion from the blind pouch, the parts had healed permanently. The curette passes over the pouch without removing this material.

Diseases of Stenson's Duct, and the Treatment. By Carl E. Munger, Waterbury, Conn.

This paper appeared in THE LARYNGOSCOPE, Vol. XI, No. 3, p. 214.

LARYNGOLOGICAL SOCIETY OF LONDON.

SIXTY-NINTH ORDINARY MEETING.

December 1, 1901.

E. CRESSWELL BABER, M. B., President, in the Chair.

Perforation of Left Faucial Pillar.

Shown by Dr. Furniss Potter. This case was exhibited chiefly because it presented a considerable contrast to the case shown by Mr. Waggett at the last meeting of the Society, and also because of Dr. Clifford Beale's remarks on that occasion, who stated that from inquiry he had learned that perforation as the result of scarlet fever was almost outside the experience of physicians at the fever hospitals.

The patient, a single woman aet. 24 years, stated that she had scarlet fever when she was four years of age, at which time she had "a very bad throat and mouth." No history of syphilis was obtainable. On examination a slit-like opening about three-quarters of an inch long was seen in the left anterior faucial pillar, through which a probe could easily be passed. In the right posterior pillar there was the appearance as of a perforation, but a probe could not be passed through. There was considerable cicatricial tissue in the pharynx, and the right posterior pillar was partially adherent to the pharyngeal wall. The angles of the mouth were scarred. There were no signs of tonsils. As a result of the scarring there was considerable deformity and interference with distinct articulation, the patient speaking in a manner somewhat resembling that of a case of cleft palate.

Dr. Clifford Beale said that on looking at the case one could not help having rather a doubt as to its causation. There were scars on the edges of the lips and elsewhere in the mouth, which were, in his opinion, most probably due to infantile syphilis. He thought it hardly fair to label the case as being definitely and entirely due to scarlet fever. If scarlatinal ulceration was a com-

mon cause of perforation more cases would have been noted, since scarlatinal patients were always kept under observation for some weeks after the cessation of the fever.

Sir Felix Semon did not quite know for what purpose the case had been shown. Was it merely to show the occurrence of perforations in the palate, or was it brought forward as a counterproof against the possibility of a congenital formation of such clefts in the palate? He thought the case was an excellent illustration of the fact that faucial webbing might be developmentally explained. He could not think of a better illustration showing the difference between a congenital defect and one of ulcerative agency, for in the congenital cases there was absolutely no trace of cicatricial tissue at the edges of the clefts, whereas in this case the cicatricial tissue was most marked.

Dr. F. de Havilland Hall suggested that possibly scarlet fever might have had something to do with the condition by depressing the patient's vitality, and allowing the poison of hereditary syphilis to act.

Dr. Furniss Potter said, in reply, that with regard to Dr. Clifford Beale's remarks as to syphilis acting as a cause, he had carefully questioned the girl, but could not elicit any history leading him to suppose that she or her family had been affected by syphilis. The patient stated that she suffered at the time of having scarlet fever from very severe ulceration of the throat and mouth, the ulceration, in fact, extending to the mucous membrane inside the cheeks, and to the lips. This would, he supposed, account for the scars at the angles of the mouth.

With regard to Sir Felix Semon's question, he showed the case because he thought it was in sharp contrast to the one shown by Mr. Waggett at the November meeting, and also because it would be of interest after Dr. Clifford Beale's remarks on that case in November.

Macroscopic and Microscopic Specimens of the Larynx From Cases of Lymphadenoma, Lympho-Sarcoma, Tuberculous Lymphadenitis, Etc.

Shown by Dr. Jobson Horne. Dr. Jobson Horne exhibited and demonstrated these preparations, and said that upon them he had based his opinion that the diseases generally grouped under the name of Hodgkin's disease were due to infection, and that one manner of entry of the infecting agent was through ulceration in

the larynx. An account of the work he had done on this subject would be found in the 'Journal of Laryngology' for December, 1901. Dr. Horne mentioned that in one of the cases (microscopic sections of which were exhibited) he had found tubercle in a gland which presented the structure of lymphadenoma, and which was adjacent to the ulcer in the larynx; this, he considered, raised the question whether the ulcer in such a case and in the absence of tubercle in the lungs should be regarded as evidence of primary tuberculosis of the larynx.

Dr. FitzGerald Powell thought he understood Dr. Jobson Horne to say lymphadenoma was due to tubercular infection; he should like this explained.

In reply to Dr. FitzGerald Powell's question as to whether lymphadenoma and tuberculosis were to be regarded as one and the same disease, Dr. Horne said it was a point on which it was difficult to make himself clearly understood, for this reason: That tuberculosis was an entity, and lymphadenoma might also be one, but at present, no two people in discussing lymphadenoma seemed to be quite agreed upon what should be regarded as lymphadenoma. Dr. Horne said he recognized a distinct histological structure as characteristic of lymphadenoma; in that structure he had at times observed distinct histological tubercle with giant-cells and tubercle bacilli; whether the lymphadenoma structure had been developed through the presence of tubercle, or whether the tubercle had been added to the lymphadenoma, there was not sufficient evidence at present upon which to base an answer.

Case and Specimen of Tubercular Rhinitis in a Man, Aged 35, Treated With Roentgen Rays.

Shown by Mr. L. Lawrence. The patient, a road surveyor, had been troubled with discharge from the nose for rather more than a twelvemonth. Some months ago he was treated with douches, first of boracic acid, and later of an alkaline lotion with some apparent benefit. Later the discharge returned, and on September 21st last, the following condition was noted: The whole septum, both sides and also both sets of turbinate bones were, as far as visible, greatly inflamed and covered here and there with yellow patches. The mucous membrane in many places was polypoid. In the floor of the nose on both sides the septum and inferior turbinals were pressing against each other. There was abundant of-

fensive discharge from the nose. A piece of polypoid mucous membrane was removed for microscopic examination, and well-marked tubercle (exhibited) was shown. The man's general health had been good all along, but he had had severe supra-orbital neuralgia and some pain in the eyeballs. Treatment by exposure to Roentgen rays had been tried since September. The patient had had twenty-one applications, varying from seven to ten minutes each. His symptoms had considerably abated, and there was much less swelling in the nose than formerly. The pain also had gone from eyes and forehead, and the patient now expressed himself as feeling more comfortable.

Dr. Hugh Walsham explained the technique of the treatment of such cases with Roentgen rays.

Dr. Herbert Tilley wished to suggest in connection with this case that if after twenty-three applications of the Roentgen rays, administered by such an expert as they knew Dr. Hugh Walsham to be, the improvement was not more marked than it appeared to be in this case, it was high time to proceed to other and more drastic measures of treatment. He suggested thoroughly curetting the ulcerated surface under general anesthesia, followed by the rubbing in of pure lactic acid. The application of the Roentgen rays was a very interesting form of treatment which one would like to see more often applied to difficult cases of lupus of the inside of the nose, especially in the earlier stages of the disease. He could conceive that it might produce good results, similar to those obtained in lupus of the skin. He did not know how bad this case was when it was first seen before the rays were applied, but it was obvious that it must have been an exceedingly bad one if the present condition of things was supposed to be one of great improvement.

Mr. de Santi had recently had two such cases under his care in the out-patient department; they were both tubercular affections of the nose. One was treated by the Roentgen rays and the other he was treating with urea (ten grains to the ounce of water). He was bound to admit that the latter treatment had been more effective than the former. The urea was taken internally, and local treatment was also applied to the interior of the nose of the nature mentioned by Dr. Tilley (scraping, lactic acid, etc.). He had also had very satisfactory results in cases of tubercular glands of the neck treated by the internal administration of urea.

Dr. St. Clair Thomson suggested that as primary tuberculosis of the septum was very rare, Mr. de Santi should put his cases on record. There were only seven cases in British literature bearing on the subject. Six of these were reported by Mr. Steward, of Guy's Hospital,* and the seventh by himself.† His authority for this statement was Renshaw of Cambridge, who searched the literature in connection with some animal experiments in which tuberculous matter was inoculated into the nose ('Journal of Pathology,' vii, No. 2, 1901, p. 142). These seven cases did not include lupus. His own case was shown at the Clinical Society, and he had watched it for four years. The treatment had, to a great extent, been palliative, and its condition was now much better than the one they had just seen in the adjoining room. The treatment in his own case consisted of cleanliness, with a little curetting, the use of lactic acid, and general hygiene. The patient objected so strongly to the curette, and was so positive that she was better without it, that he had not pressed it. The same patient was treated by Dr. Watson Williams at the Bristol Infirmary with tuberculin, to which she reacted violently according both to her own account and that of Dr. Watson Williams, and she was no better for it. He had not seen the patient now for a year, but the progress of the disease was extremely slow, and at that time her condition was very comfortable.

Mr. de Santi, in reply to Dr. Thomson, said his cases were not primary tuberculosis of the nose, but cases of lupus, which he included in the designation "tubercular."

The President regarded the case as one of chronic tuberculosis of the nose; such cases were not uncommon. As regards the light treatment, he had had a case of this description which he saw in the spring, in which the patient received eighteen applications of Finsen's light treatment for spots of lupus outside the nose, and twenty applications of X-rays. The former seemed to do some good. Of the X-rays he could not speak so decidedly; if they had any effect at all in this case, which had been previously treated by curetting, lactic acid, etc., it was in making the parts look more glazed and drier. As regards the internal administration of urea, he mentioned that his colleague, Mr. Buck, had obtained good results from it in lupus of the skin. He himself had tried it in one case of

*"Guy's Hosp. Reports," Vol. LIV.

†St. Clair Thomson, "Clin. Soc. Trans.," October, 1897, and February, 1900.

tuberculosis of the nose, and had given it for four months. The nasal mucous membrane had been previously curetted and treated with lactic acid, and the patient expressed herself as very satisfied with the urea treatment; at any rate, no re-growth had occurred, although there had been no scraping for some months, only applications of lactic acid. It was impossible, of course, to draw any conclusions from a single case of this character; a large number would require to be treated before an estimate of the value of urea given internally could be formed, and it should, if possible, be tried on cases that had not been submitted to local treatment. With regard to the case under discussion, he thought thorough curetting was necessary, or else a further course of the Roentgen rays. Personally he would advise the former, and then apply lactic acid in the usual way. The society were much indebted to Mr. Lawrence for bringing forward such an interesting case, and also to Dr. Hugh Walsham for explaining the method and technique.

Mr. Lawrence said: "As regards the treatment of the case, of course the obvious thing at present would be to curette it and rub in some lactic acid. I think, looking to the fact that the Rontgen rays have done considerable good, and that there is really no great urgency in the case, and that it is improving slowly, it is worth while trying the rays for a little longer, especially as Dr. Walsham is willing to go on with the treatment to see how it answers. On a future occasion I will, if you will allow me, bring the patient before you again."

Case of Complete Loss of Internal Framework of the Nose in a Girl Aged 22.

Shown by Dr. Cathcart. The patient was quite healthy up to the age of thirteen. She then contracted scarlet fever, followed by inflammation in the nose, which resulted in complete loss of all the internal nasal structures. The bridge of the nose had fallen in, and Dr. Cathcart would like to have the opinion of any member who had had experience of the subcutaneous injection of paraffin as to whether this was a suitable case for such treatment.

Dr. Scanes Spicer had had one case in which he had injected vaseline under the skin of the nose for a very similar deformity. The only disadvantage which followed was that some of the paraffin worked its way into the upper eyelid. He had shown the casts of the nose before and after treatment, and photographs at the

meeting of the British Medical Association at Cheltenham this year. Within the last few weeks he had handed over the patient to the ophthalmic department to see if it were practicable to remove the paraffin from the subcutaneous tissue of the lid; but having made an incision, Mr. Keeling had not been able to improve matters, and so the puffiness of the lids remained. He hoped to show the photograph and the patient at the January meeting of the society if possible. The technique for inserting the paraffin into the nose was rather troublesome. He used just such a small syringe as used to be used for tuberculin injections. He heated the paraffin in a water-bath, and had the patient standing near. Having sterilized the skin with alcohol and sublimate solution, he injected three or four syringefuls of the paraffin into the subcutaneous tissues over the middle of the nasal bridge, and moulded the mass up with the fingers to the shape of a normal nose. The point of injection was sealed with collodion. In future he would inject only a small amount at one time, and repeat as necessary, and he would press down the skin at root of nose on to the subjacent tissues, so that nothing could escape, at all events at time of injection. He thought Dr. Cathcart's case was a suitable one, because the skin was so freely moveable, and a bolster of paraffin between the skin and the bridge would make a presentable nose. The paraffin in his own case had now been in situ six or seven months, and it was really wonderful how well it filled up the depression which had previously existed in the bridge. Before commencing treatment the condition was quite as bad as that now seen in Dr. Cathcart's case, whereas now there was quite a decent bridge, though the feature was not of an ideally refined type.

In reply to Dr. Tilley, Dr. Spicer stated that the paraffin used melted at 105° or 106° F., and was sterilized. It was a mixture of lard and soft paraffin, as first recommended by Dr. Gersuny of Vienna.

Dr. St. Clair Thomson asked if there were not some doubt as to this case being the result of scarlet fever. He saw the words used to describe the case were "after scarlet fever." Did the history point indubitably to this destruction being the result of scarlet fever? Perhaps members with a greater experience than he possessed would tell the society whether it was ever a recorded occurrence for the bony framework of the nose or even part of it, to be destroyed by scarlet fever.

Dr. S. Snell thought that the patient had been the subject of interstitial keratitis; there was also scarring at the right angle of the mouth, and he was therefore of opinion that this was a syphilitic lesion, perhaps lighted up by the scarlet fever.

Dr. Cathcart was much obliged to Dr. Scanes Spicer for the description of the technique he had given, and for the results of his experience, and if he decided to inject paraffin he would take advantage of the latter, and try and prevent the paraffin going into the lids.

With regard to what Dr. St. Clair Thomson had said in reference to the etiology, according to the description given him, the affection came on immediately after or during an attack of scarlet fever.

With reference to a specific origin, there was a small leucoma on the corneal periphery below, in the right eye, but it was confined to one eye and was not interstitial keratitis, but a leucoma following an ulcer.

Case of Mal-Development of the First and Second Branchial Clefts.

There is a rudimentary auricle, slight facial paralysis, and a sinus halfway down the anterior border of the right sterno-mastoid. There is also marked hydrocephalus.

Case of Epithelioma of the Epiglottis in a Middle-Aged Man.

Shown by Mr. E. Waggett. This was a case of slow-growing epithelioma involving the cervical glands. It was brought forward as one in which divergent opinions might be expressed as to the possibility of radical operation.

Sir Felix Semon did not think this a case suitable for operation. The disease was very extensive, and had infiltrated the pharyngeal wall on both sides; there were also large glands on both sides. Even if it were possible to remove the disease entirely, which he doubted, rapid recurrence would be unavoidable.

Mr. de Santi fully agreed with the remarks of Sir Felix Semon. He did not think in that particular case it would be possible to get away the whole of the disease. It should be left entirely alone.

Case of Cicatricial Stenosis of the Pharynx in a Young Woman, the Sequel of Cut Throat Inflicted Eighteen Months Previously.

Shown by Mr. Waggett. Deglutition and respiration were embarrassed by a firm web binding the epiglottis to the posterior wall of the pharynx. A cutting operation through the mouth had been followed by some dyspnea, and it was now proposed to perform laryngofissure.

Case of Paralysis of the Left Vocal Cord in a Woman Aged 42, Probably of Specific Origin.

Shown by Mr. de Santi. The patient had suffered from embarrassed breathing for from three to four months; she had also had a bad cough during the last six months. There were well-marked tertiary scars about both legs, and her last baby, born five years ago, had had snuffles, etc. Examination of the larynx showed well-marked paralysis of the left vocal cord, otherwise the larynx was normal. There was no swelling in the neck to be discovered, and examination physically of the chest had been negative. The case looked, however, like one of thoracic aneurysm with pressure on the left recurrent laryngeal nerve, and this would tally with the history of syphilis. (Subsequent to the meeting the thorax was examined by the rays, and a dilatation of the arch of the aorta easily made out.)

Case and Specimen of Fibroma of Nasal Vestibule.

Shown by Mr. W. H. Kelson. The patient, a man, came to hospital complaining of a tumor which blocked the left side of his nose and produced considerable deformity. He had noticed it for about ten years. It looked and felt like a cyst. An incision was made through the skin of the vestibule, where the growth appeared to take origin, and it was enucleated. The tumor, which was about the size of a small hen's egg, was solid, and microscopically was seen to be a fibroma. Patient had had one or two similar tumors removed from other parts of his body. The side of the nose previously blocked was now pervious, and the deformity had quite disappeared.

Case of Sublingual Dermoid Cyst in a Male Aged 17.

Shown by Dr. Wyatt Wingrave. The symptoms were chiefly discomfort in deglutition and speech of about two months' dura-

tion. The swelling was visible on each side of the frenum lingue of a somewhat purple color. It projected below the mandible, fluctuated, and was painless.

It was opened nine days ago on the left side of the foramen, releasing at first a small quantity of clear thin fluid, with a few white flakes. On digital pressure about two ounces of white, pasty matter, resembling German yeast, was evacuated. This mass was not fetid, and consisted microscopically of amorphous fat granules and epithelial squames.

Part of the capsule, which was deeply situated and very thick, was excised, and the cavity, which extended under the tongue between the genio-hyoglossal muscles, was scraped and swabbed out with pure phenol.

The foramen cecum was not well marked, and although the cavity extended closely to it, no actual communication could be made out.

The contents conformed in every respect with cholesteatomatous cysts of the auricle.

A similar case was recently under his care in private, in the person of a young athlete aet. 22. The history, anatomy, and treatment were exactly like the present case, but it healed without suppuration, and had caused no further trouble, there being no signs of its existence eight months after operation.

Case of Tubercular Larynx with Fixation of the Left Cord.

Shown by Mr. C. A. Parker. The patient, a man aet. 29, complained chiefly of hoarseness. On examination there was found to be some general chronic laryngitis, but the more marked pathological changes were confined to the left side of the larynx. The left cord was infiltrated, ulcerated, and fixed, and there was a red fleshy swelling springing from the left ventricular band.

The patient had been losing flesh slightly, and there were signs of commencing phthisis at the left apex.

Just before coming to the meeting Mr. Parker had learned that the case had previously been brought before the Society by Dr. Furniss Potter in June last.* There were then no signs of phthisis, and the cord was freely movable.

Dr. Clifford Beale stated that when he examined this case he certainly thought that the left cord moved as well as could be ex-

*See 'Proceedings,' Vol. VIII, p 141.

pected in a patient the subject of that amount of disease. He did not think it was fixed when he saw it. It quite fell into one's ordinary experience of unilateral tubercular disease in the larynx when comparatively acute. Sometimes in such conditions the cord worked well and sometimes not. Very often in consultation one had a little indecision in these cases as to whether the cord was fixed or not, but after observing it for a short time one generally came to the conclusion that the damaged cord moved very much like an arm when damaged, i. e., sometimes better than at other times, but at all times badly and stiffly. With regard to the question of fixation as the result of tubercular disease, he thought it would be better to exercise care in reporting and describing these cases if there was a doubt as to the absolute fixation. Such a case as the one under discussion, if so described, would make it appear that the Laryngological Society of London recognized fixation of the cord as one of the natural sequences of tubercular disease of the larynx. He ventured to say that the Society would not give their assent to that opinion. He had not yet seen any case put on record to prove that fixation of the crico-arytenoid joint did occur as a direct result of tubercular disease.

Mr. C. A. Parker said in reply that he quite agreed with Dr. Clifford Beale that there was not absolute fixation of the cord; "impairment of movement" would have been a more correct description. At times, however, he thought the cord refused to act at all.

Case of Re-Growth of Malignant Disease in a Man Aged 52, After Partial Removal by Laryngofissure.

Shown by Dr. StClair Thomson. This patient was shown to the Society in June last (vide 'Proceedings,' vol. viii, p. 136), with a growth involving the anterior four-fifths of the right cord, and the anterior third of the left. It was then generally agreed by members that the growth was malignant and suitable for thyrotomy. This operation was undertaken on June 18th, and as soon as the skin incision had been carried down to the front of the larynx it was seen that the disease was much more extensive than any one had suspected. The glands in front of and alongside the larynx were infiltrated and the muscles even were affected, while the thyroid cartilage itself had broken down in the middle line. It was noteworthy that no one who had seen the case before-

hand had suspected this malignant perichondritis, though possibly it was indicated by a red fleshy granulation below the cords in the anterior commissure. (This was indicated in a drawing handed round, made by an artist the day before the operation.)

In spite of the extension of the disease beyond the confines of the cartilaginous voice box it was thought desirable to give the man any benefit of doubt, and all the soft parts inside of the thyroid cartilage were widely removed, the cartilage being left bare on each side and the cords removed right back to the arytenoids. The infiltrated parts of cartilage in front were cut away.

One interesting point was to note how well the patient stood the operation. That evening his temperature was 100·8°, but the next day it was only 99·4°, and it never rose higher. He swallowed water on the evening of the operation. The next day he sat out of bed for four hours, and forty-eight hours after the operation he was swallowing solid food, such as eggs and bread and butter.

The neck wound healed well, and he gained a fair whispering rough voice from the development of cicatricial tissue in the larynx into pseudo-vocal cords. At the end of July he appeared fairly well.

He did not come under observation again until November 30th, when the growth was seen to have re-grown on the right side, where an enlarged gland is to be felt.

The growth removed was reported by the pathologist to be epithelioma.

The patient now weighed fifteen stone and had remained these six months in the enjoyment of good general health, and no local discomfort beyond the diminished voice power.

Sir Felix Semon would make a further attempt, for it seemed to be a pity that nothing more should be done. The disease still appeared to him limited enough, so that a second operation of the same sort might be more lastingly successful than the first one had been.

Mr. de Santi understood from Dr. St. Clair Thomson that when operating enlarged glands were found, and also some glands which were not usually described, namely, one or two in the front of the larynx—the prelaryngeal glands. It would be interesting to find out whether these glands, which were removed at the time of operation, were infiltrated with epitheliomatous disease. If so—and

it was presumable they were involved—one would not get any really good results from a second operation, as recurrence would undoubtedly take place rapidly. Moreover, the disease was very extensive, and it was a question whether its limits could be at all defined. In his opinion, therefore, it was not a suitable case for secondary operation.

Dr. Lambert Lack did not think further operation advisable. The growth had spread to the arytenoid and anterior wall of the pharynx. If operation were decided on, the case required total extirpation of the larynx and part of the pharynx as well.

Sir Felix Semon said he should like to know why extirpation of the whole larynx was recommended by the last speaker. There was no evidecne of the return of the disease on the left side. In other respects the man was in a good state of health. If he personally was in this man's unfortunate position, he would rather undergo a second operation than go certainly downhill, as must otherwise be the case.

In reply to Sir Felix Semon, Dr. Lack said the chief point in favor of extirpating the whole larynx was that the mortality of cases in which half the larynx had been removed was very much greater than that of cases in which entire removal had been done. He further thought that total extirpation would give a better chance of freedom from recurrence.

Dr. St. Clair Thomson said he had not seen the patient since the end of last summer until a few days ago, but after some discussion of the case in the next room the history came back to his memory. He was speaking now without having recently looked up his notes. When he made the first incision at the operation, he came down at once, as Mr. de Santi had mentioned, upon some glands in the neck which were distinctly infiltrated. They were situated over the crico-thyroid membrane. The thyroid cartilage itself was also involved, and was ulcerated so much that he resected portions of it, and clipped away a lot of muscle which appeared to be infiltrated. The pathologist reported that the growth was epitheliomatous. The disease had spread very much more than was suspected before operation. He agreed with Dr. Lack that it seemed to him the disease had spread through the arytenoid, and very possibly to the side of the pharynx quite close to the tongue, and so he thought an operation of any sort was almost hopeless, especially when one bore in mind the extralaryngeal conditions found at the laryngofissure six months ago.

Case of Complete Paralysis of the Right Vocal Cord in a Man Aged 33.

Shown by Mr. E. W. Roughton. The patient had well-marked physical signs of phthisis and a small, deep-seated swelling in the right side of the neck, which Mr. Roughton thought was a mass of tuberculous glands involving the recurrent laryngeal nerve.

Dr. Clifford Beale had some doubt as to the absolute paralysis of the right cord here, for he saw it move to a certain extent.

Dr. FitzGerald Powell said there did not appear to be any tubercular disease in the larynx, but he thought the cord was quite paralyzed; it was suggested that this was a case of fixation or paralysis of the cord from enlarged tubercular glands in the neck pressing on the recurrent laryngeal nerves, and this he thought to be the case.

Dr. Scanes Spicer thought the condition one of immobility from paralysis of nerves rather than organic fixation. He could not detect any movement whatever in this case, whereas he agreed with Dr. Clifford Beale as to the previous case shown as paralysis of cord that there was now considerable movement.

In reply Mr. Roughton said he did not think there had been any tubercular disease of the larynx at all.

Case of Hoarseness in a Child Aged 1 Year and 10 Months.

Shown by Mr. E. W. Roughton. In this case Mr. Roughton had been unable to obtain a view of the larynx.

Dr. Scanes Spicer considered that this was a very suitable case for trying the method of general chloroform narcosis with simultaneous local application of cocaine. He continued to find this combined anesthesia invaluable in a large number of cases of laryngeal trouble in children in which it was essential to examine or operate on the larynx.

The President would advise trial of an examination with cocaine, using a tongue depressor and small laryngeal mirror. During respiration a momentary view of the glottis might be obtained.

Dr. Lambert Lack thought it would be quite easy to examine the child with the aid of his tongue depressor without using either chloroform or cocaine.

The President said he knew Dr. Lack's method, but had not always found it successful.

Growth in Larynx in a Case of Syphilis (For Diagnosis).

Shown by Dr. H. Lambert Lack. This patient, a woman aet. 37, has been under treatment for a month with ulceration of the left vocal cord, fixation of the left side of the larynx, and a fleshy growth springing from the anterior commissure. There is extensive scarring of the palate attesting former syphilis. In spite of large doses of potassium iodide (gr. xxv ter die) the laryngeal growth is increasing rapidly. The case is shown for suggestions as to diagnosis and treatment.

Dr. St. Clair Thomson said that pieces of the growth had been punched out, and so it was impossible to say clinically what it might be. He would like to hear the microscopist's report, as it might be tubercle, syphilis, or almost anything. At present it was only an ulcerated thickening.

Case of Swelling of Left Side of Nose (for Diagnosis.)

Shown by Dr. Furniss Potter. The patient was a woman aet. 49, who stated that the swelling in her nose had been developing for the last four years. She had had pain at times, and some discharge. There was no history of syphilis. On examination the left side of the nose was seen to be considerably swollen externally, the mucous membrane of the left nasal fossa was swollen, and bled very readily on being touched. The septum was much thickened and presented two perforations, one behind the other.

Dr. FitzGerald Powell said he thought that this was a case of breaking-down gumma or tubercular abscess, but the perforation of the septum led one to suspect a specific origin. On making firm pressure on the swelling outside, pus was distinctly seen coming from a sinus on the inside of the nose.

Dr. St. Clair Thomson thought the condition of the septum suggested tuberculosis much more than syphilis, and that a portion of the hypertrophy might be removed and examined microscopically. It was a sort of thickening that could not be easily described, and was similar to the tuberculous case he had referred to earlier. The patient under discussion had had for four years a thickening of the skin on the nose, and he did not think it likely that a node could remain in statu quo as long as that.

The President agreed with Dr. St. Clair Thomson in believing the swelling looked more like tuberculosis. A piece should be scraped off and examined under the microscope.

Dr. Furniss Potter would act on the suggestions made, and obtain a scraping from the nose and have it examined microscopically.

Case of Stenosis of the Pharynx.

Shown by Mr. C. A. Parker. The paient, a woman aet. 37, stated that when ten years old she had an abscess in the neck followed by trouble in the throat which caused her to talk thickly. She was then and for many years afterwards under the care of the late Sir Morell Mackenzie. There was no history of scarlet fever and there was no definite signs of hereditary syphilis.

On examination, the tonsils and posterior pillar of the pharynx were seen to be bound down to the posterior wall of the pharynx; lower down the epiglottis was adherent to the pharynx, leaving a small circular opening not much bigger than a three-penny piece. On strongly depressing the tongue the opening could be seen by direct vision as a narrow vertical chink about half an inch long and an eighth of an inch wide. The patient had no difficulty in respiration and but little in deglutition; she could swallow solids, but occasionally fluids "go the wrong way."

The President said this case reminded him of one he had shown some years ago at the society—a young person with stenosis of the lower part of the pharynx (see "Proceedings," Vol. I, p. 9).

On the Graver Complications of Chronic Purulent Otitis Media— H. F. WATERHOUSE, *Edinburgh Med. Journal,* Sept., 1901.

The complications which the author describes under this heading are (1) aural polypi, (2) purulent inflammation of the mastoid antrum and cells, including caseous and cholesteatomatous collections; (3) paralysis of the facial nerve, (4) ulceration of blood vessels, (5) meningitis, (6) cerebral and cerebellar abcess, (7) pyogenic lateral sinus thrombosis.

He then discusses under each of these headings the symptoms met with, illustrated by cases occurring in his own practice. This paper, which contains much useful information, cannot be briefly abstracted with advantage, but the reviewer recommends it to the notice of all who are interested in the subject.

A. LOGAN TURNER.

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It is our purpose to furnish in this Department a complete and reliable record of the world's current literature of Rhinology, Laryngology and Otology.

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VI. EAR.

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***Otitic Sinus Phlebitis and Thrombosis.** J. E. SHEPPARD (Brooklyn.) *Brooklyn Med. Journal*, November, 1901.

Operation For Caries of the Mastoid, Secondary Opening of the Lateral Sinus, and Ligation of the Internal Jugular Vein. JULIUS ROSENSTERN (San Francisco). *Medical Record*, Nov. 23, 1901.

***On the Graver Complications of Chronic Purulent Otitis Media.** HERBERT F. WATERHOUSE. *Edinburgh Med. Journal*, September, 1901.

Report of a Case of Congenital Absence of Auricle and Auditory Canal. ROBT. M. ROSS. *St. Louis Medical Review*, Feb. 8, 1902.

***Some Questions With Regard to Acute Middle-Ear Inflammation.** PETER MCBRIDE (Edinburgh.) *Lancet*, May 18, 1901.

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VII. MASTOID AND CEREBRAL COMPLICATIONS.

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Operative Treatment of Abscess When Situated in the Brain. CHARLES A. BALLANCE. *Lancet*, May 25, 1901.

VIII. THERAPY.

Antidiphtheritic Serum Therapy in Bulgaria. M. IVANOFF. *Med. napried., Sopija*, 1900, I, 35-46.

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IX. MISCELLANEOUS.

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***Hay Fever; A Rational View of the Etiology Of.** GEO. B. BEST (Englewood, N. J.) *North American Jour. of Homœopathy*, February, 1902.

Neurasthenia Caused by Morbid Conditions of the Nasal Cavities. J. SZMURTO. *Medyeyna, Warszawa.* 1901, XXIX, 813; 835.

Papillary Reflex In Tuning-Fork Stimuli of Hearing. N. A. SHURIGIN. *Russk. med. vestnik, St. Petersb.*, 1901, No. 13, 49-51.

***Suppression of Consumption.** R. C. BANKSTON (Birmingham, Ala.) *Atlanta Journal-Record of Medicine*, January, 1902.

The Histogenesis of Hyperplasia of the Pharyngeal Tonsil—DR. OSKAR BRIEGER (Breslau), *Archiv fur Laryngologie*, Band XII, Heft 2.

After a very full and extensive discussion of all the various theories as to the etiology of this condition, the author advances his own views, which are as follows:

The hyperplasia in question does not exist as a true hypertrophy of the whole organ, but the mass of the enlarged tonsil is composed mainly of a great increase in the amount of lymphoid tissue. The author is a firm believer in the beneficent and protective power of lymphoid tissue. He therefore regards this hyperplasia simply as an effort of nature to increase the resisting power of the individual to pathogenic germs at a time of life when the other tissues are particularly susceptible to their influence. As the individual approaches adolescence, the tissues in general gain more resisting power, and the lymphoid masses in the pharynx slowly disappear.

It so happens that from the situation of this lymphoid mass, in some instances, certain mechanical obstructions occur and certain irritations are developed. When these occur the mass should be removed, but not otherwise. The author sees cause for operation, not in the mere presence of hyperplasia of the pharyngeal tonsil, but in the occurrence of the various disturbances which may be set in motion by it.

VITTUM.

ABSTRACTS.

The Communicability of Scarlet Fever by Discharge From the Nose—J. KERR LOVE, *Glasgow Medical Journal*, December, 1901.

The writer relates a case in which one brother took scarlet fever from the other, thirteen weeks after the latter had contracted the disease. The writer satisfied himself that the infection could only have been obtained from the otorrhea.

A. LOGAN TURNER.

Some Questions With Regard to Acute Middle-Ear Inflammation. P. MCBRIDE, *Lancet*, May 18, 1901.

The author first narrates a case in which a small pouting perforation in the left drum, of recent origin, proved intractable until pus had been evacuated from the right maxillary sinus. Consideration of this case raises several important questions, which he treats seriatim :

1. The Connection between Acute Otitis Media and Affections of the Nose and Naso-pharynx.—It is, of course, perfectly well known that acute nasal or pharyngeal inflammation may lead to suppuration of the middle ear. It is so known that marked adenoids, and possibly much-enlarged inferior turbinals, may predispose to the affection. It is, however, not sufficiently recognized that there is a form of adenoids which practically produces no other trouble, but which may be responsible for recurrent attacks. In these cases the patient breathes perfectly; he may be subject to colds in the head, but they do not attract much attention. On examining with the rhinoscopic mirror, however, a layer of adenoid tissue is observed occupying the space between the Eustachian orifices, and apparently pressing upon their margins. On digital examination, the lymphoid tissue will be felt, but it will be observed that there is not any great quantity present. In such cases, however, the recurrent acute ear attacks will usually cease after the adenoid tissue has been removed.

2. What is the best Method of Treating Middle-Ear Inflamma-

tion After Spontaneous or Artificial Perforation Has Occurred?—The method of plugging the meatus with aseptic dressing after, so far as possible, sterilizing the canal is not at all suitable for all cases. In this instance the perforation certainly diminished in the two days during which such dressings were applied. In future the author will adopt this method with great caution, if at all, when the perforation is small and the membrane tends to bulge. It is, of course, now the custom to decry the use of Politzer's bag, and even the catheter, in all cases while suppuration is still going on. In the average patient, where there is no recognizable infective secretion in the nose or naso-pharynx, and where drainage is difficult owing to the small size of the perforation, he is still inclined to advocate both methods. If they seem actually beneficial, he is not disposed to be deterred from their use because they are hypothetically, or even theoretically, dangerous.

3. When Should the Question of Mastoid Operation be Considered?—There are two conditions which, after perforation has occurred, seem to the author to indicate that the case will be troublesome—to-wit, (1) excessive discharge, and (2) a small perforation in a bulged membrane. When the discharge appears in such quantity that it is hardly conceivable that it can be all secreted by the lining membrane of the tympanum, it will usually be found that after a varying period some tenderness, or even spontaneous pain, arises in the mastoid region.

In the presence of a small pouting perforation and a bulged membrane, the surgeon is often in great difficulties as to how best to obtain drainage. A free incision is valuable for the moment, but, as every experienced aurist knows, it soon closes, and the condition is no better than before. The least indication of mastoid inflammation will give an excuse for operating. It is, indeed, an open question whether the occurrence of pain should be awaited.

One word more as to the method of operating in these recent cases. It is of the utmost importance that the middle-ear structures should be respected, and for this reason Schwartze's method should be adopted, associated, if necessary, with the removal of any softened bone which may be found in the lower part of the process. If these rules be adhered to, we commonly find that the discharge from the ear ceases, the membrane heals, and almost perfect hearing results.

ST. CLAIR THOMSON.

Incudectomy in the Treatment of Progressive Hardness of Hearing, Tinnitus and Vertigo—CHAS. H. BURNETT (Phila.), *Penn. Medical Journal,* Oct. 1901.

Chronic progressive hardness of hearing is the result of a tropho neurosis in the muscular structures of the naso-pharynx, Eustachian tube and lympanic cavity, and not a purely catarrhal process, according to the author.

The surgeon's aim should be to overcome the retractive power of the tenser tympani and thus relieve the symptoms and arrest the advance of this progressive process.

In the author's opinion, the best method to accomplish this purpose, is to perform an incudectomy. The operation should be performed under general anesthesia. Its various details are described.

(In reading over the clear description of the operation as suggested by the author, one not experienced with the technique would imagine that the procedure was quite simple and without danger. No mention, however, is made of the sequelae which may follow such treatment. Instances of faucial paralysis; prolonged suppuration; mastoid involvement; marked vertigo and poorer hearing power have followed surgical intervention in these cases, and ossiculectomy must be well considered, pro and con, before attempting its application in these cases of chronic middle ear disease.

M. D. L.

Acute Amygdalitis; Its Treatment by the Local Application of Tincture of Iodine—DR. S. FLOERSHEIM, *N. Y. Medical Journal,* Oct. 5, 1901.

Prompt relief was obtained in three cases of this affection, by the local application of the tincture of iodine, over the tonsils and pharynx. The application was repeated in a few minutes. If much burning followed the treatment, a gargle of warm water was employed.

If applied early, the disease may be absorbed. It is also of service in acute pharyngitis and uvulitis; also in phlegmonous amygdalitis.

The intense redness and swelling has decreased in a few minutes. Sixty-eight cases of acute amygdalitis were treated with marked benefit.

M. D. L.